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## ABSTRACT

This report highlights the services and programs for workforce development that are available through West Virginia University's (WVU) statewide network of schools, colleges, regional campuses, extension offices, and research units, but does not include four-year undergraduate or graduate programs. Specific sections address the following services, programs, or schools: WVU extension service; Health Sciences and Technology Academy; rural health education partnerships; University Affiliated Center for Developmental Disabilities; the North Central Nursing Workforce Network; School of Social Work and Public Administration; College of Human Resources and Education; job accommodation network; Center for Entrepreneurial Studies and Development; College of Business and Economics; Institute for the History of Technology and Industrial Archaeology; software engineering; mining extension service; National Research Center for Coal and Energy; alternative fuels project; College of Agriculture, Forestry, and Consumer Sciences; Perley Isaac Reed School of Journalism; College of Law; School of Physical Education; WVU at Parkersburg; Potomac State College of WVU; WVU Institute of Technology; and West Virginia Clearinghouse for Workforce Education. (DB)

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# WORKFORCE DEVELOPMENT AND WEST VIRGINIA: THE WEST VIRGINIA UNIVERSITY APPROACH

Presented to the  
West Virginia Legislature Joint Education Committee

September 14, 1998

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**WORKFORCE DEVELOPMENT AND WEST VIRGINIA:  
THE WEST VIRGINIA UNIVERSITY APPROACH**

David C. Hardesty, Jr.  
President  
West Virginia University

Presented to the  
West Virginia Legislature Joint Education Committee  
September 14, 1998

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## INTRODUCTION

Sustainable economic development in our state and its many communities—of which workforce development is a major component—remains our continuing challenge as West Virginia citizens and as institutions. West Virginia University has a charter commitment to practical education dating to our founding in 1867 as one of America's great land-grant universities. The watershed Federal legislation which established these institutions, the Morrill Act of 1862, stated that chief among our purposes was to "teach agriculture, military tactics, and the mechanic arts as well as classical studies so that members of the working classes could obtain a liberal, practical education."

WVU's charter commitment to workforce development as well as "classical studies" has never been stronger than it is today—and it will strengthen even more in coming years.

This presentation highlights the services and programs for workforce development that are available through WVU's statewide network of schools, colleges, regional campuses, Extension offices, and research units. The list presented here is not comprehensive, however. For example, we do not include our four-year undergraduate or our graduate programs—our "core business" related to workplace development and preparation. Our intention here is to help the reader understand the breadth and depth of WVU's commitment to workforce development, which extends well beyond our wide array of degree programs.

## OVERVIEW: WVU'S ROLE

This presentation demonstrates that West Virginia University

- is a leader in workforce development
- has unique capabilities as an integrated, statewide education and training system to impact workforce development
- partners extensively—within its family and with other institutions (nonprofit and for-profit), government agencies, and communities
- is committed to improving the impact and linkages among its many workforce development programs, among its many points of delivery, and with its many partners.

Nearly every survey and analysis in recent years of West Virginia's most pressing needs agree that the top priority is jobs—more jobs, better jobs, and retaining jobs—and behind this is a call for a better-prepared workforce. Every West Virginia institution, every level of government, every for-profit and nonprofit organization must contribute to this goal.

Yet we must also realize that the answers to meeting workforce development needs are rarely simple. We must avoid "magic pills"—one-shot ideas that address only part of the need, leaving untouched or even disabling other parts of the integrated, statewide system of workforce developers. Herein also lies the longer-term solution: integration and cooperation. The many providers of workforce improvement services and programs must be better integrated, better connected to focus on the specific needs, which are always changing.

Understanding workforce development in West Virginia is difficult, and answers vary according to perspective.

What is workforce development? Is it technician and trades skill training? Is it the combination of post-high school apprenticeships and required certifications? College and university degrees? Community college associate degrees needed to compete for and obtain jobs, to begin careers? Is workforce development career-long, lifelong continuing education, retraining, or recertification? Or is it intervention early in life to enable children to learn?

The answer is yes: workforce development includes all of these components.

There are many approaches to the issue of workforce development across the nation. The National Center for Workforce Preparation, an initiative of the national land-grant university system, is described as "an initiative to enable youths and adults to enter and re-enter the workforce and engage in ongoing education and training that results in effective performance through their working lives." The Center does its work in partnership with the Coca-Cola and Amoco Foundations, focusing on developing local community coalitions "to design, implement, and evaluate workforce preparation programs in communities." This is an example of a local, community-based approach.

Another approach to the issue is that of the BellSouth Foundation, which has made a corporate commitment to promoting effective workforce preparation in the southeastern United States. Its efforts are focused on schools, on "the readiness of students to take their places in a workplace [that is] more complex and technological than a decade ago."

The Iacocca Institute at Lehigh University in Pennsylvania uses the process-mapping methodology to address the issue, "modeling the major processes within the workforce development system . . . to capture the strengths, weaknesses, hand-offs, and disconnects of the overall system." The Institute has begun a project with the Commonwealth of Pennsylvania that will result in a new statewide strategic plan for workforce development, including reorganizing state agencies.

At their national conference on workforce preparation in Fort Worth, Texas, last year, the American Chamber of Commerce Executives (ACCE) resounded a theme being repeated across America: build workforce preparation systems, not just programs. Keynote speaker Steve Palko, vice chairman and president of Cross Timbers Oil Company (and chair of the Fort Worth Chamber's education and training committee) said: "During the agricultural age, workers were valued for their self-reliance. During the industrial age, a worker's success was directly related to his or her ability to conform. . . . Today's worker, the worker of the information age, by contrast, is relied on to think critically and work in teams. . . . Build [workforce preparation] systems, not just programs."

Those of us in higher education are committed to enhancing our already substantial set of programs and services that impact workers of today and tomorrow. In meeting its land-grant mission West Virginia University provides workforce development through an integrated, statewide, university-wide system of schools, colleges, campuses, Extension offices, and distance-learning sites. In every area of WVU's involvement around the state—Extension, professional programs, research, and so forth—we deliver commensurate workforce development services.

The community college, vocationally oriented associate degrees and certificates provided by WVU Tech, WVU Parkersburg, and Potomac State College of WVU can be coordinated with our four-year programs and graduate offerings. Safety, health, firefighting, and mining; industrial, agricultural, and forest products extension; as well as programs in youth and family development, can be coordinated with the work of applied research units.

This integrated approach to workforce development enables University units with differing capacities to jointly upgrade job skills and strengthen home, school, and community support for tomorrow's workers. Researchers, who are creating inventions and solutions that will improve or establish successful businesses of tomorrow, work hand-in-hand with faculty who conduct the continuing education and design the degree programs and specialized non-credit courses that prepare workers for these employers and markets of tomorrow. And in many cases at WVU, these researchers and educators are one and the same.

### **Doing It Better**

Improvements will continue to be made in the WVU approach to workforce development. The University's unique capabilities as an integrated, statewide education and training system will be enhanced. There will be increased communication and partnering within the statewide WVU family and with our many community, government, school and postsecondary, for-profit, and nonprofit collaborators. Our regional campus presidents now serve as regional vice presidents of the University, indicating their enhanced roles in state and regional economic development and workforce education.

Targeted funding is required. In addition to providing a significant array of economic and workforce development services, we intend to continue to be among those institutions, businesses, and elective bodies that will set the workforce development policies for West Virginia. West Virginia University is committed to creating and improving workforce development systems, not a disaggregated series of disconnected services and programs.

### **Our Vision**

This is West Virginia University's vision for workforce development:

Workforce development at West Virginia University is a system: an integrated, relevant set of services and programs throughout the state that meet the changing needs of the current and the emerging workforce. These services and programs are delivered in a timely way in full partnership with local communities and with school, other postsecondary, labor, government, nonprofit, and business organizations.

## **Highlights of the West Virginia University Approach to Workforce Development\***

\*WVU provides many other programs and services as part of its systematic approach to workforce development in addition to those listed here. Chief among these are our vocational, community college, baccalaureate, and graduate degree and certificate programs.



## **Workforce Development and West Virginia University The Extension Service Approach**

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### **SELECTED PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **CENTER FOR AGRICULTURAL AND NATURAL RESOURCES  
DEVELOPMENT**

#### **APPALACHIAN HARDWOOD CENTER**

The Center provides industry with ready access to a staff of technical support personnel with expertise in areas related to the wood products industry. The center provides training, technical assistance, forest resource and industry data, compliance assistance, research, and communication to the forest community to enhance the market for existing and emergent wood products. Training includes an ongoing program of seminars and workshops on a variety of topics as well as customized training to meet specific needs of individual clients or organizations. Technical assistance ranges from fact-providing to short-term projects to ongoing relationships addressing specific topics. Compliance assistance involves guidance on meeting OSHA, EPA, and DOT regulations.

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#### **ALTERNATIVE AGRICULTURAL PRODUCTS**

This includes areas such as aquaculture, ginseng, and the Mountain Pride Cooperative for niche meat products. These programs provide educational and technical support for the industries. For aquaculture, this includes water quality tests, basic system design and species, selection, production management training, technical assistance for on-going production sites, and promotion and marketing activities. For ginseng, this involves training in the uses, value, and harvesting of this wild herb. For niche meats, this entails production and marketing of products such as goat and rabbit.

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### **BEEF AND POULTRY**

This undertaking provides training and on-site assistance to producers in the areas of production and marketing. Information is not only provided through the training sessions but in a series of bulletins available to producers through various means (including the World Wide Web) as well. A special effort is being made on beef marketing with the assistance of the West Virginia Cattleman's Association and other groups. Meanwhile, poultry is the No. 1 agricultural commodity group within the state; thus educational and informational materials related to poultry production, consumer education, and other related topics are provided.

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## FARM MANAGEMENT

This effort provides education and training in the business aspects of running an agricultural business for farm families. Farm management is a learned set of skills that allows the manager to make informed decisions and to implement changes that will move the operation toward its goals.

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## GRASSLANDS MANAGEMENT

This program provides technical assistance, training, and education to grassland farmers to help improve yield and income, increase market value of products, and improve production per animal or acre. The key to this program is providing understanding on the concept of a forage-livestock system -- the combination of forages, livestock, management, and marketing that a manager uses to meet personal and business goals.

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## PESTICIDE APPLICATOR TRAINING

This program provides education and training for those seeking state certification for the use of pesticides in agricultural and other settings (in conjunction with the WV Department of Agriculture). This includes the applicator licensing, certification, and recertification training programs.

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### **TREE FRUIT GROWERS**

The Tree Fruit Extension Program provides training and assistance in the management and operation of orchards. This includes: tree fruit schools conducted at Kearneysville and Romney in March and at other locations upon request, a newsletter with 14 issues annually, fruit grower meetings, on-site problem-solving visits, diagnostic services, and demonstration trials.

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- **CENTER FOR COMMUNITY, ECONOMIC, AND WORK FORCE DEVELOPMENT**

### **BUSINESS RETENTION AND EXPANSION**

This program works with existing local businesses in an effort to meet their needs and encourage them to remain in the community and expand operations. This can include arranging for training of the work force for new skills and/or to overcome any problems. Since 1993, seven communities have completed the program. Another two are currently involved in the program. Over 200 jobs have been added or saved statewide as a result of these efforts.

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## COMMUNITY DEVELOPMENT APPROACHES

These efforts build and enhance the capacity of the community by providing them with feedback. In the First Impressions program, communities learn how they and their businesses are perceived by first time visitors and how that image can be enhanced. In the Community Design Team program, recommendations on improving the community may include recommending how to expand the economic base and/or the training needed for the work force, if that was a perceived problem area. In the 1½ years of the programs, five communities have had First Impressions visits and five have also hosted Community Design Teams. (Two places -- Grafton and Logan -- have done both).

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## CONSTRUCTION SAFETY

This program offers education, training, consultation, and research to improve the safety and health of construction workers in the state. The program includes OSHA training and the Fall-Safe research effort. The OSHA courses -- OSHA 500, 510, 10-Hour, and 30-Hour -- cover industry standards for the construction industry. Some of these courses are taught as part of the role Safety and Health Extension (S&HE) has as a National Resource Center for OSHA Training. Over 50 persons were trained in 1997-98 in construction classes and close to another 80 in general fall prevention and ergonomic classes. These courses have reduced construction accidents and injuries. The Fall-Safe research is studying the effectiveness of a workplace intervention effort under way by S&HE.

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## DIRECT MARKETING

The West Virginia Direct Marketing Association (WVDMA) provides training and technical assistance to small and/or emerging businesses that specialize in value-added agricultural and/or craft products. The association came into being in 1985; presently about 175 producers are members. An annual conference provides education to the

membership on improving sales and products, and a newsletter keeps the lines of communication open. This program has helped small-item agricultural producers open viable businesses throughout the state. Also, organizations in the areas of aquaculture, herbs, organic foods, and speciality foods have "spun off" from the WVDMA.

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### **FIRE AND EMERGENCY TRAINING**

Firefighting and emergency response schools train local paid and volunteer firefighters, industrial fire brigade personnel, rescue workers, and EMS personnel. These personnel are taught at classes such as the WV State Fire School, regional or county fire schools, and specialty classes taught at the local department or corporation. These programs encompass almost any facet of life's daily emergencies and expand into situations that train our responders to deal with terrorism and threats involving weapons of mass destruction. More than 750 training programs were conducted during 1997-98 reaching nearly 12,000 fire and rescue personnel.

Industrial Fire Brigade Training programs, in the basic format, train emergency responders and general plant personnel in basic fire sciences, fire extinguisher operation and use, plant employee evacuation and personnel accountability. More advanced training programs concentrate on the use of personal protective equipment, self-contained breathing apparatus, proper use of hoses and nozzles, foam and foam application and the tactics needed to control interior and exterior structural fires in the industrial setting. This training meets the requirements of OSHA's 29 CFR 1910.156 Industrial Fire Brigades standard and the NFPA 600 -- Industrial Fire Brigade Standard. During 1997-98 more than 30 training programs were conducted for over 700 industrial workers in West Virginia and Ohio.

Confined Space Rescue programs train emergency responders to recognize a confined space emergency, to assess and control the real and potential hazards presented, and to safely rescue individuals from the confined space. The training varies from 8 to 24 hours and is designed to make rescuers proficient in hazard recognition and control, atmospheric monitoring and ventilation, the selection and use of proper protective equipment, and the use of proper entry and rescue techniques. During 1997-98 14 confined space rescue classes were presented reaching more than 150 workers. These classes meet the requirements of OSHA's 1910.146 Permit-Required Confined Space Final Rule.

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### HAZARDOUS MATERIALS TRAINING

These trainings are designed for individuals who come into contact with hazardous materials in the course of their jobs. One set of programs train industrial emergency responders, volunteer and career firefighters, and local EMS workers to recognize hazardous materials incidents and respond in an appropriate and safe manner to mitigate an incident and lessen its impact on surrounding workers and communities. The training varies from 4 to 40 hours in duration depending on the level of response capability required. During 1997-98 over 90 classes were conducted for nearly 1,300 workers. These training programs meet the requirements of OSHA's 1910.120 Hazardous Waste Operations and Emergency Response rule as well as the National Fire Protection Association's Standard 472 -- Professional Qualifications for Hazardous Materials Emergency Responders.

There are also specific courses for those who must remove and/or handle hazardous waste at the work site. There are 40- and 24-hour basic courses and an 8-hour refresher course. Additionally, there are specialized courses in asbestos removal that meet the certification requirements of EPA, OSHA, the West Virginia Department of Health and Human Resources, and other regulatory agencies. The hazardous waste worker training courses can be used for certification and provide continuing education units. In 1997-98, about 50 persons received asbestos training and 95 persons received general training.

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### LABOR-MANAGEMENT RELATIONS

The Institute for Labor Studies and Research (ILSR) offers credit and non-credit courses and workshops to teach union officials a multitude of skills from administration to bargaining to legal rights to computer use. These training sessions lead to a more knowledgeable work force. In 1997-98, ILSR had 65 programs ranging from 2 to 40 hours in length with an enrollment of 2,235 workers and 26,620.5 total contact hours. The programs included 46 basic leadership workshops (1,068 enrolled, 5,399.5 contact hours), four union leadership academy courses (79 enrolled, 790 contact hours), nine conferences (671 enrolled, 4,793 contact hours), and six week-long summer schools (417 enrolled, 15,638 contact hours). Classes were offered in 16 different West Virginia counties with participants coming from 46 of the state's 55 counties.

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### PERSONNEL STUDIES

Through the Local Government Assistance Program, organizational and personnel studies can be done for local governments. An intern is used to make this a service-learning project (see Internship Opportunities). The result is job descriptions for the governmental employees, providing them and their supervisors a better understanding of their work and the organizational work flow. One county (Hancock) was done in 1997. Another county (Jackson) is starting the process.



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### WORKPLACE SAFETY

This undertaking includes trainings in a variety of areas ranging from regulatory requirements, to providing technical expertise, and studying the effectiveness of labor-management safety committees. Some of these offerings are part of the OSHA Region III Training Institute located at Safety and Health Extension. Twelve different classes are offered through the OSHA Training Institute. In 1997-98, almost 200 students participated in these classes, including 75 who were in the courses on safety attitudes, fall prevention, and ergonomics (see Construction Safety).

Other parts of this effort stress traffic safety and rural farm safety. Safety and Health Extension in cooperation with the Network of Employers for Traffic Safety (NETS), provides on-site driving training throughout the state. The program covers areas including speeding, substance abuse, aggressive driving, occupant protection, and responsible driving. The program reduces human suffering and economic costs that result from crashes.

The rural safety effort provides training for farmers and rural residents in areas such as the safe operation of equipment and emergency medical assistance. This activity is offered at the local level. Generally, where there is need, such sessions are held at least annually. The result has been the reduction of accidents and lost work time on farms due to injury.

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- **CENTER FOR 4-H AND YOUTH, FAMILY, AND ADULT DEVELOPMENT**

**4-H PROGRAMS**

There are a variety of different programs that teach different skills, including science and technology, recreation, personal development, and leadership. The agriculture programs teach youth business and technical agricultural skills. The "Learn to Earn" program offers youth the opportunity to learn job skills. Most of these programs operate on a local level and their implementation is tailored to each county's needs. Participation in these programs helps 4-Hers understand their preferences, abilities, and goals for their careers.

Also, to earn state 4-H recognition, youth must now submit a résumé and be interviewed -- simulating the job application experience. This year, 40 youths submitted award applications.

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**CAREER EDUCATION PROGRAMS**

These programs include teaching students about different careers, career education modules in the summer 4-H camps, and encouraging students to stay in school so they receive the education and/or training needed for the job market. Activities range from sponsoring career fairs to working with teen mothers. Another activity that is also undertaken is "shadowing" or "mentoring" students -- pairing high school youth with someone in their chosen career field. The anecdotal evidence indicate these programs have had some success in keeping students in school and encouraging them to get additional education and/or training.

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## ENERGY EXPRESS

This program provides at-risk youth of elementary school age the opportunity to improve in their reading, an essential job skill, during the summer months. More than 3,000 youth were helped this summer at 68 states throughout the state. Participants averaged gains of 1-3 months in their reading skill level, compared to the standard loss of 3-4 months experienced during the summer.

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## FOOD SAFETY

This effort teaches a variety of audiences, including commercial food service workers, county sanitarians, and Head Start workers, in the areas of food preparation, food safety, and food nutritional labeling. It includes ServSafe, a program that provides National Restaurant Association certification for Good Server Managers. In the year since the certification program started by the 20-member Food Safety team, approximately 80 persons have completed the training. Other trainings have helped individuals do their jobs better -- such as Head Start workers planning menus and sanitarians inspecting facilities.

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[www.wvu.edu/~exten/depts/famyou/f4\\_hyd.htm](http://www.wvu.edu/~exten/depts/famyou/f4_hyd.htm)

## IN-HOME CHILD CARE PROVIDERS

The Extension Service has been instrumental in helping establish local/regional and statewide networks for in-home child care providers. Extension agents at the local level have been active in creating associations for in-home providers that cover several counties. Training, education, and information is offered through these organizations to those who are or are thinking about providing in-home child care. As an outgrowth of the formation of these local groups, the West Virginia Family Child Care Alliance was organized, with

Extension playing a similar role. Plans are in the works for the initial statewide meeting of this group to provide training and education next year.

Contact: County Extension Service offices  
or  
Carl Townsend  
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City-County Building  
1500 Chapline Street  
Wheeling, WV 26003-3593  
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ctownsen@wvu.edu.

#### INTERNSHIP EXPERIENCES

This undertaking involves college-age youth participating as mentors in the Energy Express program or Volunteer Camping Advisors (VCAs) at county 4-H camps. It allows them to gain experience working with youth and have the opportunity to learn about the challenges and potential opportunities in this career field. This summer, over 420 students served as mentors and another 60 as VCAs. The Energy Express students showed significant increases in personal efficacy and commitment to public service after their summer's work.

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## **Workforce Development and West Virginia University The HSTA Approach**

Health Sciences and Technology Academy  
Robert C. Byrd Health Sciences Center  
West Virginia University  
P.O. Box 9026

Morgantown WV 26506; (304) 293-1651 or 1-800-345 4367

### **CURRENT PROJECT WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **THE HEALTH SCIENCES AND TECHNOLOGY ACADEMY (HSTA)**

The Health Sciences and Technology Academy (HSTA) reaches out to 9th-12th grade under-represented students and follows them to college and towards professional school to help them prepare for health care careers. The goal is to nurture the ambitions of talented students who, for economic or other reasons, might not ordinarily achieve these career goals. HSTA is a partnership among the numerous units of West Virginia University and many Appalachian communities. The program brings minority and disadvantaged students and their teachers to campus each summer for clinic, laboratory, and classroom training and enrichment activities, then provides the infrastructure and support for community-based science projects mentored by teachers, health professions students, and volunteer community leaders during the school year.

HSTA students matriculate through their pre-college years to West Virginia University's college and professional school support system through the West Virginia Rural Health Education Partnerships and the Central Appalachian Health Careers Opportunity Network. HSTA aims to share the resources and talent of the University, to encourage public school teachers' and community leaders' mentoring of students. The ultimate goal is to increase the college-going rate among under-represented students in the Appalachian region, to improve science and math education, to empower communities through leadership development of their youth, and, ultimately, to increase the number of health care providers in West Virginia's currently under-served rural communities.

HSTA is currently funded by nearly \$4 million in grants from the W.K. Kellogg Foundation, Howard Hughes Medical Institute, Coca-Cola Foundation, Dwight Eisenhower Math and Science Education Act, Stanley and Virginia Hostler, Benedum Foundation, and the National Institutes for Health as well as with additional funding by the State of West Virginia. Components of the program include:

#### **HSTA SUMMER CAMPUS-BASED PROGRAM:**

Students experience fun hands-on science and math projects led by middle and high school teachers trained by WVU faculty to integrate math and science curricula with leadership development, self empowerment, communication skills, study skills, and multicultural sensitivity.



### **HSTA ACADEMIC YEAR COMMUNITY-BASED PROGRAM:**

Community service health projects are the vehicle for academic enrichment and social support. The students are enrolled in HSTA Science Clubs and led by HSTA trained middle and high school teachers in group and individualized projects. They develop networking skills, communication skills, the ability to pull together resources and a sense of ownership in providing solutions to community problems.

### **HIGHLIGHTS:**

- HSTA provides long-term intervention in areas of chronic health care shortage with a homegrown approach by fostering student academic success through their teachers, encouraging students to choose health careers, and nurturing their allegiance to rural communities in hopes they will return as practicing health professionals.
- HSTA is a part of the Rural Health Education Partnership.
- Currently HSTA is in 20 counties, involving 460 students and 48 middle and high school teachers.
- The success of this program rests in the community's feelings of ownership and control, and long-term partnerships among higher education, public education at the state and local level, and rural communities. HSTA's governing board represents all partners: the schools, communities, and higher education. The majority of the board members represent the local rural communities.
- Teachers graduating with masters in secondary education through HSTA: 5 in 1997; 8 others will graduate over next 2 years.

### **SPECIAL OUTCOMES:**

- HSTA teachers feel HSTA student's interests in health careers is increased through HSTA activities.
- HSTA teachers see HSTA students trying to improve their grades (with success) to stay in HSTA.
- Attitudes toward math and science among the HSTA students show a much more positive trend than the general population.
- The West Virginia State Legislature passed, unanimously, WV HB 2786 in April, 1997, which allows West Virginia State Colleges and Universities to provide tuition and fee waivers to students who successfully complete HSTA.



- 100% of the graduating 4<sup>th</sup> year HSTA students applied to college and were accepted.

#### **EVALUATION SURVEY FINDINGS:**

- Science is students' favorite part of HSTA summer institute.
- Students feel more interested in health careers because of HSTA.
- Students feel HSTA teachers encourage their ideas.
- HSTA teachers say HSTA courses contribute a great deal to their professional development.
- Teachers feel they learn a great deal from facilitating HSTA clubs.
- Five teachers have Masters in Arts in secondary education with a science focus through HSTA involvement and 12 more are pursuing masters degrees.
- 33% of HSTA students entering 12<sup>th</sup> grade have 3 credits of college algebra.
- 66% of HSTA students entering 12<sup>th</sup> grade are prepared to take college level math.

**Contact:**

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## **Workforce Development and West Virginia University The Rural Health Approach**

West Virginia Rural Health Education Partnerships  
Robert C. Byrd Health Sciences Center  
West Virginia University  
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Morgantown, WV 26506-9003; (304) 293-6753

### **CURRENT PROJECT WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **THE WEST VIRGINIA RURAL HEALTH EDUCATION PARTNERSHIPS**

The West Virginia Rural Health Education Partnerships is a work force program to increase the number of U.S. West Virginia-trained health professionals in under served rural areas of the state. The program, however, is not just a WVU program; it is a U.S. WV program and governed by legislation. An annual report is submitted to the Board of Trustees each December.

WVU, because of our four health sciences schools, is very active in the program, along with Marshall and WVSOM. WVU sends students from these disciplines into rural communities for training in dentistry, dental hygiene, medicine, medical technology, nursing, pharmacy, psychology, and social work.

The program has already impacted the work force in some rural communities. As a result of the program, dentists, pharmacist, nurses, and at least two social workers have been hired in the communities in which they trained. At least one of those social work positions, in Greenbrier County, was created as a result of the program. (NOTE: Social work is not one of the disciplines under the health sciences schools and therefore is not mandated by the legislation to participate; both social work and clinical psychology participate voluntarily.)

We were able to get social work (WVU) and clinical psychology (WVU and MU) involved in the rural health training programs as part of a federal grant to WVU. The grant that funded the social work involvement is now over, and we anticipate renewal, by January 1999, of the grant allowing WVU to place clinical psychology MA students in selected rural communities.

We have had a positive response regarding the hiring of pharmacists and dentists thus far in the training program. Since medicine also includes the three to four years of residency prior to practice, we have yet to see an MD or DO who trained in the program in any of these rural community training sites. We expect to see this begin within the next two years. We have, however, seen an increase at all three medical schools in the number of students electing to go into primary care residencies. This has resulted not only from WVRHEP but from concerted efforts within the schools as well as curricular changes at all three schools.

## **Workforce Development and West Virginia University The UACDD Approach**

University Affiliated Center for Developmental Disabilities  
Robert C. Byrd Health Sciences Center  
West Virginia University  
955 Hartman Run Road  
Morgantown, WV 26505; (304) 293-4692 or 1-800-841-8436

### **UACDD's MISSION:**

The University Affiliated Center for Developmental Disabilities (UACDD) is a federal program mandated by Congress under Public Law 104-183 and funded through the U.S. Department of Health and Human Services/Administration on Developmental Disabilities.

It was created at West Virginia University in 1978 with four projects, a handful of staff, and a budget of \$200,000. Today, UACDD has 22 programs, a \$4 million budget with a staff of more than 100 individuals who provided direct assistance to more than 3,000 West Virginians with developmental and other disabilities in FY '98. Also in 1998, UACDD provided outreach training in the community to more than 19,000 individuals (professionals, parents, general public) and technical assistance/consultation to some 32,000 agencies and individuals statewide.

Our mission is to enhance the quality of life of individuals of all ages with developmental and other disabilities so that they and their families can experience productive, independent, and totally integrated lives. This mission is accomplished by support provided in the following areas: preparation of personnel; services and supports, including community training and technical assistance; and dissemination of information and research.

UACDD is one of only 60 University Affiliated Programs (UAPs) in the nation and is part of the Robert C. Byrd Health Sciences Center and provides a comprehensive array of services in all 55 counties. This novel statewide resource center works directly with major state agencies, educational institutions, service organizations, community action groups, private businesses, and city and county governments to enhance the lives, productivity, and independence of West Virginians with disabilities. Its various support and program initiatives have impacted the more than 230,000 households in the state of West Virginia having a family member with some type of acknowledged disability.

In 1996, a Federal Site Review Team representing the U.S. Department of Health and Human Services/Administration on Developmental Disabilities stated, "UACDD represents a model for other UAPs in the nation to follow, and is among the top UAPs in the Country."

## **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **WEST VIRGINIA ASSISTIVE TECHNOLOGY SYSTEM (WVATS)**

This program is operated by UACDD through a subgrant from the West Virginia Division of Rehabilitation Services (DRS). WVATS assists people of all ages and types of disabilities to explore the technology they need to become or remain independent at home, work, or school. WVATS staff work to increase awareness about assistive technology and how it can be used for activities of daily living with a toll-free hotline to provide information about available resources, training, technical assistance, and funding resources in the state. They also produce a quarterly newsletter with an annual audience of 40,000 readers statewide.

WVATS has two Regional Resource Centers (Morgantown and Charleston) and seven problem-solving community-based groups located around the state helping to provide outreach activities. The staff trains consumers, parents, and professionals in the use and application of assistive technology to directly enhance the quality and productivity of life for West Virginians with disabilities.

- **WEST VIRGINIA SUPPORTED EMPLOYMENT RESOURCE CENTER PROGRAM**

The Supported Employment Resource Center Program is a collaborative effort with the West Virginia Division of Rehabilitation Services (DRS). It is a statewide capacity building program specifically designed to assist state agencies in developing, monitoring, coordinating, and providing integrated employment services for individuals with disabilities. It promotes community-based training and employment opportunities for West Virginians with severe disabilities by training new supported employment vendors in each of the seven Division of Rehabilitation Services district offices.

This program promotes the building of advocacy and systems change initiatives and efforts throughout the state while sponsoring an annual three-day Supported Employment Symposium. In 1997 this program spearheaded the development and signing of the WV Supported Employment Partnership Project (WVSEPP). This five-year plan outlined for the first time the roles, responsibilities, goals, and redirection of funds by the WV Division of Rehabilitation Services, WV Department of Education, WV Bureau of Community Support, Bureau of Employment Programs, WV Developmental Disabilities Planning Council, Governor's Cabinet on Children and Families, and the Social Security Administration. This was a major systems change initiative.

- **SPECIALIZED FAMILY CARE PROGRAM**

In 1981 a class action lawsuit, *Medley vs. Ginsberg*, mandated the development of a statewide program of community-based services to make it possible for West Virginians with developmental disabilities to move from state facilities into community settings. The Specialized Family Care Program is one of those activities. This novel program is a statewide placement and family support system designed to serve the needs of children and young adults. It is offered in collaboration with the West Virginia Office of Social Services and Bureau for Children and

Families, Department of Health and Human Resources. Specialized Family Care host families are specifically recruited and trained by UACDD staff to provide training, nurturing, and a family atmosphere for individuals who need full-time care.

The program is maintained by UACDD staff in 44 West Virginia counties, and serves more than 195 clients residing in approximately 194 individual home-style settings. This is truly one of the exemplary programs in the United States.

- **RURAL EDUCATION FOR APPALACHIAN COMMUNITY HEALTH (REACH)**

REACH is funded by the U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Public Health Professionals. It helps to develop clinical competent health care providers, skilled in interdisciplinary practice, who will provide greater access to quality health care in rural West Virginia. It is based in a 12-county rural area of northwestern and northcentral West Virginia and addresses various health care needs, with special emphasis on feeding and nutritional issues for children with developmental disabilities.

Staff members develop curriculum materials and set up clinical and non-clinical experiences for students and health care professionals including nutritionists, physical therapists, occupational therapists, speech pathologists, and psychologists. The program demonstrates innovative models of cost effective access to enhance health care for individuals residing in rural areas while supporting the retention of rural health care professionals.

- **POSITIVE BEHAVIOR SUPPORT**

Positive Behavior Support activities offer assistance to people who have challenging behaviors (aggression, self-injury, etc.) and a disability. This program has three UACDD initiatives that provide training and consultation to individuals, their families, and support personnel to help prevent problem behaviors; create effective community supports; and encourage planning and life goals centered around the individual's needs:

- **Life Quilters:** Life Quilters are consultants who work directly with individuals and their families to develop and strengthen existing local resources so people with challenging behaviors can live successfully in their communities. Project staff work with the individuals, their families, and local support agencies to discover why a person is demonstrating challenging behaviors and to find effective ways to enable the individual to build a productive life.
- **Life Span:** The Life Span Positive Behavior Support Project offers comprehensive, community-based training activities impacting individuals of all ages and with a variety of disabilities. Project staff address the needs of critically under served populations of all ages including pre-school children, school-age children, adults, and aging adults.



- Tri-State Consortium: Positive Behavior Support Training teams in Pennsylvania, Virginia, and West Virginia are working together to provide training to parents, school personnel, and local agencies who support children with challenging behaviors in reaching their goals.



## **Workforce Development and West Virginia University The Nursing Approach**

North Central Nursing Workforce Network  
School of Nursing  
West Virginia University  
P.O. Box 9600  
Morgantown, WV 26506-9600 (304) 293-4831

### **NURSING'S ROLE IN WORKFORCE DEVELOPMENT:**

The North Central West Virginia Nursing Workforce Network was established in 1996 with a grant from the Robert Wood Johnson Foundation and with support from local institutions and organizations. The Network is a consortium that is composed of six schools of nursing and a variety of service agencies such as hospice, home health, hospitals, health departments, schools, senior centers, and nursing homes. It is one of 20 Colleagues in Caring sites that have been established around the country.

The consortium hopes to achieve the following goals in the nine-county area that includes Monongalia, Marion, Harrison, Lewis, Taylor, Upshur, Barbour, Randolph and Preston counties:

- assess the current and projected comprehensive nursing needs of the region
- analyze the capacity of the region's nursing work force and the ability of educational programs to meet these nursing needs
- enhance opportunities for career mobility for nurses in the region
- develop a system for estimating future workforce needs
- establish a mechanism to continue the work of the project after initial funding has ended

The largest impact will be in North Central West Virginia, where we hope the right numbers of nurses will be in the right place, with the right preparation, at the right time, so that the nursing care that patients receive will be of optimal quality. Some of the challenges to be faced are:

- creating seamless transitions for nurses from training program to workplace, and from position to position within and between workplaces

- providing opportunities for communication between employers, educators, and nurses that will allow all parties to develop a more accurate picture of each others' work expectations.
- predicting the numbers of nurses needed in the region in the future according to setting and educational preparation
- developing strategies to deal with the aging nursing workforce that would include attracting people into nursing at an earlier age
- developing ways for small hospitals and rural clinics to retain newly graduated nurses
- attracting young nurses to become nurse educators

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Sharon Boni, DNSc, RN  
Co-Project Director/Chair  
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#### ● POST MASTER'S NURSE PRACTITIONER EDUCATIONAL PROGRAM

The Post Master's Nurse Practitioner Educational program is offered by the School of Nursing to meet the health care needs of West Virginia residents. Offered since 1992, the program is designed to prepare nurses who have already achieved graduate level education to become nurse practitioners.

This is a 19 academic credit hour course that leads to a Post-Masters Certificate as a Nurse Practitioner. The timeframe covers a minimum of one academic year. Successful completion enables the candidate to sit for the National Certifying exams and ultimately declare advance practice in this state.

This program has and continues to significantly contribute to workforce development and to increased availability of health care for the residents of West Virginia.

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## **Workforce Development and West Virginia University The SW/PA Approach**

School of Social Work and Public Administration  
Eberly College of Arts and Sciences  
West Virginia University  
P.O. Box 6322  
Morgantown, WV 26506-6322; (304) 293-2614 Ext. 5254

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **PUBLIC MANAGEMENT DEVELOPMENT AND TRAINING**

The Division of Public Administration and its faculty provide management development and training for public sector and non-profit organizations. Some of these workshops are extensive, such as a six-day session for the supervisory staff of Workers Compensation and ten half-day workshops for the top level staff of Sharpe Hospital.

Other workshops are part of professional development and continuing education activities, such as the ones conducted for county commissioners and direct practice social workers. These workshops contribute to the development, public management ability, and professional training of persons working in public sector organizations at all state levels and for those working in non-profit and community organizations.

The workshops contribute to personal development of those in the workforce and to organizational improvement.

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- **REGIONAL VISIONING AND DEVELOPMENT**

Public Administration faculty and graduate students have been engaged in a wide variety of regional visioning and development projects in the state of West Virginia. Chris Plein has worked extensively with the Region 9 Planning and Development Council and the Greater Eastern Panhandle Chamber of Commerce on community development and regional visioning, including various internships on local development projects.

Gerald Pops is working with Region 8 Planning and Development Council on similar concerns. Kenneth Klase is initiating similar efforts for the Northern Panhandle. These projects have been supported by the Appalachian Regional Commission. In addition, Drs. Plein and Pops have served on Community Design Teams (with WVU Extension Service) which have worked directly with West Virginia communities such as Lost Creek, Grafton, and Durban.

These regional visioning and community development projects have contributed to local initiatives, economic development, networking of local officials and community leaders, and general growth and improvement in regions of West Virginia.

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- **PROFESSIONAL NETWORKING AND CAPACITY DEVELOPMENT**

The Division of Public Administration has worked closely with professional organizations in West Virginia to improve professional skills, establish networks, and increase the capacity of and prepare people for the state workforce. Some of these efforts are directed to students and recent graduates -- such as the student chapter of the American College of Healthcare Executives working with hospital administrators in the state. Other efforts are directed at practitioners -- such as developmental activities with the West Virginia Chapter of the American Society for Public Administration (joint programs; interaction of students and practitioners) and the West Virginia City Managers Association (training seminar; interaction of students and practitioners).

The Department also engages in extensive placement activities for students and graduates and serves as an important linkage point for public service and non-profit organizations in meeting workforce needs.

The professional networking and capacity development efforts of the Division of Public Administration helps to prepare persons for the West Virginia workforce beyond the regular WVU degree programs, engages students and practitioners for the benefit of both, and serves as a linking pin in placement in the workforce.



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• **INTERNSHIP PROGRAM**

As part of the Master of Public Administration curriculum, students are required to complete an internship. Over the years, MPA students have been placed in state, local, federal, and non-profit agencies. For pre-service students, the internship provides an opportunity to gain the experience necessary to enter the workforce. For those students who already have professional experience, the internship provides the opportunity to enhance career development by strengthening competencies in the field of public management.

Students bring to an organization substantial preparation in key public management skills, such as public budgeting and finance, personnel administration, and research and analysis. The internship provides an opportunity for students to hone these skills and learn from practical experience. Thus, while learning from the experience they are also able to make substantial contributions to their host organizations and the clients and citizens they serve.

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• **ADDITIONAL SOCIAL WORK ACTIVITIES:**

- Developed a Mentoring Training Curriculum to prepare Community Action staff to provide support and guidance to families seeking employment.
- Trained 80 mentors in Community Action and Head Start programs to assist welfare recipients in moving toward employment and sustaining self-sufficiency; CAP mentors have served over 100 welfare recipients in FY '98, and over 50 individuals have moved into the workforce.

- Offered a satellite course to 265 licensed practitioners at 19 sites throughout West Virginia. This 45 hour course provided a knowledge base to human services staff who are providing social supports to families in local communities.
- Developed and offered skill building training to 120 Head Start staff to provide support to families in poverty as they move into jobs or improve their income.
- Developed and offered 145 hours of continuing professional education sessions required by the professional license of social workers, psychologists, and counselors in West Virginia. Over 900 professionals received training in order to work within West Virginia. This included employees in the fields of aging, child welfare, mental health, human services, and nonprofit management.

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## **Workforce Development and West Virginia University The HR&E Approach**

College of Human Resources and Education  
West Virginia University  
P. O. Box 6122  
Morgantown, WV 26506-6122; (304) 293-5703

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **WEST VIRGINIA REHABILITATION, RESEARCH, AND TRAINING CENTER**

The West Virginia Rehabilitation Research and Training Center is a joint program of West Virginia University and THE West Virginia Division of Rehabilitation Services. Funded by the U.S. Department of Education, Office of Special Education and Rehabilitation Services through the National Institute on Disability and Rehabilitation Research, the Center has the unique opportunity to conduct research within a major land-grant institution and a working rehabilitation agency. The Center, which also conducts programs funded by other federal and state agencies, has the following priorities:

- Better access to economic and employment data
- Improve transfer of policy, program, and training information on vocational rehabilitation
- Training of rehabilitation information systems users to promote employment
- Job accommodations in the workplace

The models developed at the WV Rehabilitation and Research Training Center which promote employment are tested in West Virginia and then made available to other states. The Center conducts research and demonstration projects within the state to improve employment among people with disabilities.

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rmajumde@wvu.edu  
www.icdi.wvu.edu

- **JOB ACCOMMODATION NETWORK**

The Job Accommodation Network (JAN) is an international toll-free consulting service that provides information about job accommodation and the employability of people with functional limitations. When users dial 1-800-ADA-WORK they reach a professional consultant who can offer information in the following areas:

- Technical information about requirements of barrier free access and other issues
- Ideas on how to change applicant interviewing procedures, job descriptions, and employment policies
- Information about a wide variety of manufactured products that assist with job accommodations
- Current information about other service agencies, training programs, and funding sources.

The Job Accommodation Network helps business, government services, and other places of public accommodation meet the requirements of the Americans with Disabilities Act of 1990. It has direct impact on the workforce in two ways:

- it assists employers in understanding the requirements of federal legislation and in meeting the requirements efficiently
- it assists people with functional limitations who wish to enter the workforce or to change their employment by helping to create a workplace which accommodates their needs.

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West Virginia University  
Morgantown, WV 26506-6080  
1-800-526-7234 (voice/TDD)  
<http://janweb.icdi.wvu.edu>  
Computer Bulletin Board: 1-800-DIAL-JAN (Voice/TDD)

- **REFERRAL SYSTEM FOR VOCATIONAL REHABILITATION PROVIDERS (RSVP)**

The Referral System for Vocational Rehabilitation Providers targets rehabilitation of Social Security Disabilities Income beneficiaries and Social Security Income recipients. The three-year demonstration project is testing using an independent contractor as an intermediary for the Social Security Administration in managing the vocational rehabilitation referral and reimbursement program. The objective is to assume that vocational rehabilitation services are readily available to SSA-referred individuals while simultaneously improving the administration

and cost-effectiveness of the program. Through this program individuals with disabilities are referred to rehabilitation services designed to place those individuals in competitive employment. Working through the Rehabilitation Research and Training Center the project makes available to Social Security beneficiaries and recipients an electronic bulletin board for referral of persons with disabilities to rehabilitation service providers, a hotline for answering questions related to this project, and an educational system for training rehabilitation service providers. These substantial services assist in reducing dependence on public benefits and increase independence through productive employment.

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#### • THE BENEDUM COLLABORATIVE

Funded by the Claude Worthington Benedum Foundation, the Benedum Collaborative is a partnership between West Virginia University and area school districts and schools which is dedicated to advancing the quality of learning for students in the K-12 schools as well as WVU students who are preparing to become teachers. Twenty-one schools in a five-county area are involved in this partnership. The continuing professional development of practicing teachers has been a hallmark of the Benedum Collaborative since the first PDSs were established in 1990. The Collaborative as a whole conducts professional development which focuses on the common needs of educators at all 21 schools.

This past year technology integration and differences among learners were among the topics targeted for Collaborative-wide practica. In addition, each school has been able to apply for grants for site-specific needs. A major portion of these funds is traditionally used for staff development within each school.

The Benedum Collaborative impacts the workforce directly by improving the skills of practicing educators. In the long term, it impacts the workforce through the improvement in educational experiences available to K-12 students in participating schools. Finally, through the partnerships between the professional development schools and the Teacher Education Program at West Virginia University which provide for three years of extensive field experiences prior to graduation, the Collaborative impacts the workplace skills of future educators.



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www.wvu.edu/~benedum

- **THE WEST VIRGINIA K-12 RURAL NET PROJECT**

The West Virginia K-12 RuralNet Project is a three year, \$3.1 million project awarded to West Virginia University by the National Science Foundation. The primary purpose of the RuralNet Project is to train and assist West Virginia K-12 teachers in using the Internet to enhance classroom science instruction. Since 1995 the WV K-12 Rural Net Project has been training school teachers to access the internet. Any teacher of science in grades K-12 and any teacher of mathematics that is willing to collaborate with a science teacher has been eligible to apply. The project is built on the concept of mentorship.

During the summer of 1995 a team of Teacher-Leaders was trained. Those teachers then assisted in the delivery of Internet instruction to a substantially larger group of peer teachers in over 300 schools during the summers of 1996 and 1997. This past summer another group of peer teachers received Internet training. Over 1,000 teachers have been trained by this project which involves a major upgrading or renewal of the technological skills of the educators who participate.

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- **WV PRO ED**

Funded by the Claude Worthington Benedum Foundation, WV Pro Ed is an organization for educators dedicated to process education. Process education includes student-centered approaches to learning in which children help construct their own knowledge through active exploration and interactions with relevant people, events, and materials in their environment.

The purpose of the organization is to provide professional growth for West Virginia teachers through collaboration with West Virginia University, to provide awareness of process education among teachers, students, administrators, and the community, and to provide opportunities for these participants to communicate, interact, and support one another in practicing process education.

To support these goals WV Pro Ed sponsors seminars and courses taught by university professors and school educators. The association organizes and sponsors workshops on current trends and practices in education and provides mini-grants for professional development activities, such as conferences or graduate courses, and for classroom improvements or activities, such as library centers or educational field trips.

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## **Workforce Development and West Virginia University The JAN Approach**

Job Accommodation Network  
P.O. Box 6080  
West Virginia University  
Morgantown, WV 26506-6080; (304) 293-7186

### **CURRENT PROJECT WITH A WORKFORCE DEVELOPMENT COMPONENT:**

The Job Accommodation Network (JAN) is an international toll-free consulting service that provides information about job accommodation and the employability of people with functional limitations. In the U.S., JAN is a service of the President's Committee on Employment of People with Disabilities. JAN's works with employers, rehabilitation professionals, people with disabilities, educators, and others who desire accommodation information. Calls are answered by consultants who understand the functional limitations associated with disabilities and who have instant access to the most comprehensive and up-to-date information about accommodation methods, devices, and strategies.

Potential accommodations in JAN's knowledge base range from the most sophisticated devices to the most basic, such as furniture rearrangement. JAN preserves the confidentiality of communication between caller and consultant.

By providing such information to callers in West Virginia, as well as throughout the country, JAN helps people with disabilities to remain a productive part of the workforce. Since 1990, JAN has processed 10,146 calls from the state of West Virginia; 1,508 during the last reported grant year. Of the cases handled, 45 percent are from service industries such as hotels/motels, restaurants, business services, etc. This compares with 39 percent from this same category, nationally. The most common functional limitations involved in these cases is motor impairments (e.g., reaching, bending, lifting, stooping, walking, climbing, etc.). Such cases account for 45 percent of the cases handled from West Virginia, as compared with 48 percent of cases nationwide.

### **IMPACT:**

JAN conducts an ongoing survey of callers to determine the outcome of the information provided. For callers who responded to the survey during the last reported grant year (n = 252), 44 percent reported that they had made an accommodation based on the information provided by JAN. These respondents further indicated that the information provided had allowed them to hire or retain a qualified worker with a disability (56 percent), increased the worker's productivity (52 percent), saved worker's compensation and or other insurance costs (41 percent), and/or eliminated the cost of

training a new employee (37 percent). Note: These percentage sum to more than 100 percent as respondents were allowed to choose as many options as applied.

While a typical accommodation cost reported in this survey was only \$150, these employers placed a typical value of \$5,000 on the benefits their company received due to making the accommodation (as indicated in the previous paragraph). This means that for every dollar an employer put into making an accommodation, they got back \$33.33 in benefits! Such results serve as strong indicates to business that people with disabilities can be successfully accommodated within the workplace, thereby remaining productive citizens.

## **Workforce Development and West Virginia University The CESD Approach**

The Center for Entrepreneurial Studies and Development, Inc.  
College of Engineering and Mineral Resources  
West Virginia University  
P.O. Box 6070  
Morgantown, WV 26506-6070; (304) 293-5551

### **A PERSPECTIVE ON WORKFORCE DEVELOPMENT:**

- Workforce development is a process of building job competence.
- Workforce development is a dynamic process that depends on:
  - the ability to learn how to do a job
  - the organization's capacity for developing job competence
- Workforce learning is a process of observing, experimenting, testing, and documenting the best way to do a job.
- Workforce development capacity building is the primary task of building a learning organization and depends on the following:
  - Job mentors
  - Structured job training materials
  - A process for developing job skills
  - Evaluation processes for validating job skills
  - A partnership of labor and management

### **THE CESD'S ROLE IN WORKFORCE DEVELOPMENT:**

- Understanding organization needs
- Developing general job skills
- Developing specific job skills
- Building career skills in public education
- Building career skills in higher education
- Advancing the state of the art in workforce development



## CESD WORKFORCE DEVELOPMENT PROJECTS

|                                  |            |                                         |            |
|----------------------------------|------------|-----------------------------------------|------------|
| Philifilm Plastics               | Barbour    | Beltech Recycling                       | Marion     |
| Federal Executive Program        | Berkeley   | Teletech                                | Marshall   |
| Social Security Adm.             | Berkeley   | WV Cold Drawn                           | Mason      |
| Ball Metal Food Container        | Brooke     | Shell Chemical                          | Mason      |
| US Can                           | Brooke     | DS Parts, Inc.                          | Mercer     |
| BASF Corporation                 | Cabell     | Industrial Plating                      | Mercer     |
| INCO Alloys International        | Cabell     | and Machine                             |            |
| Steel of West Virginia           | Cabell     | Princeton Community Hospital            | Mercer     |
| Lignetics                        | Gilmer     | Princeton Hardwood                      | Mercer     |
| Grant Memorial Hospital          | Grant      | The Dean Company                        | Mercer     |
| Appalachian by Design            | Greenbrier | Turner Vision                           | Mercer     |
| Roll Coater                      | Hancock    | Potomac State College of West Virginia  | Mineral    |
| Hope Gas                         | Hancock    | Information Manufacturing Corp.         | Mineral    |
| Marsh Bellofram                  | Hancock    | Alliance Health Care                    | Monongalia |
| National Church Supply           | Hancock    | CERC                                    | Monongalia |
| Weirton Steel                    | Hancock    | EG&G                                    | Monongalia |
| AFG Industries                   | Harrison   | GE Specialty Chemicals                  | Monongalia |
| CNC Industries                   | Harrison   | Integrated Document                     | Monongalia |
| CNG Transmission                 | Harrison   | Mountainview Reg. Rehab. Hosp.          | Monongalia |
| Eagle Convex Glass               | Harrison   | Swanson Plating                         | Monongalia |
| FMW Rubber Products              | Harrison   | Lippert                                 | Morgan     |
| Precision Coil                   | Harrison   | Columbia Forest Products                | Nicholas   |
| Oliverio Peppers                 | Harrison   | Excalibur Tubular                       | Ohio       |
| UCAR Carbon Company              | Harrison   | Micross                                 | Ohio       |
| Winfield Industries              | Harrison   | Tri-State Electric and Machine          | Ohio       |
| KS of West Virginia              | Jackson    | Cytec                                   | Pleasants  |
| Century Aluminum                 | Jackson    | Fibair                                  | Preston    |
| G.S. of West Virginia            | Jackson    | Electronic Warfare Associates           | Raleigh    |
| Jackson General Hospital         | Jackson    | Georgia Pacific                         | Raleigh    |
| SDR Plastics                     | Jackson    | Performance Products                    | Raleigh    |
| Badger Fire Protection           | Jefferson  | Simonton Windows                        | Ritchie    |
| National Park Service.           | Jefferson  | Troy Mills                              | Ritchie    |
| Harper's Ferry Center            |            | BF Goodrich                             | Roane      |
| Channel Creasing Matrix          | Jefferson  | Roane County Hospital                   | Roane      |
| Royal Vendors                    | Jefferson  | Corhart Refractories                    | Upshur     |
| Shepherd College                 | Jefferson  | Moore Business Forms                    | Upshur     |
| Bell Atlantic                    | Kanawha    | Trus Joist-MacMillan                    | Upshur     |
| Columbia Natural Resource        | Kanawha    | Wirt Metals                             | Wirt       |
| Eastern American Energy          | Kanawha    | Mr. Bee Potato Chip Co.                 | Wood       |
| Bowles Rice McDavid Graff & Love | Kanawha    | Blue Cross Blue Shield                  | Wood       |
|                                  |            | AB Chance                               | Wood       |
| South Charleston Stamping & Mfg. | Kanawha    | Camden Clark Hospital                   | Wood       |
| CAMC (General)                   | Kanawha    | Coldwater Creek                         | Wood       |
| Clearon                          | Kanawha    | Easton Printing                         | Wood       |
| Columbia Gas                     | Kanawha    | Englander Bedding                       | Wood       |
| NGK Spark Plug Co.               | Kanawha    | Fenton Art Glass                        | Wood       |
| Rhone Polenc                     | Kanawha    | GE Plastics                             | Wood       |
| Terramite                        | Kanawha    | Nashua Photo                            | Wood       |
| Union Carbide                    | Kanawha    | Walker Systems                          | Wood       |
| Alcan Rolled Products            | Marion     | West Virginia University at Parkersburg | Wood       |
| Creative Label Company           | Marion     | Talon Manufacturing                     | Wyoming    |
| EDMCO                            | Marion     |                                         |            |
| Fairmont General Hospital        | Marion     |                                         |            |
| Fairmont State College           | Marion     |                                         |            |
| Philips Lighting                 | Marion     |                                         |            |
| Alcan Rolled Products            | Marion     |                                         |            |
| American Fiber Resources         | Marion     |                                         |            |

#### **UNDERSTANDING ORGANIZATION NEEDS:**

- CESD helps organizations understand their workforce development needs using an organization diagnostic process that involves both management and labor.
- The catalyst for these organizational assessments may be:
  - organization driven
  - provider driven
- The organizational assessments focus on sustainable workforce development not event-driven training.
- CESD has taught faculty in every community and technical college system to do the assessments.

Some statistics about organizational assessments:

- Over 150 assessments have been done.
- An additional 300 assessments will be completed by the end of 1998.

#### **DEVELOPING GENERAL JOB SKILLS:**

- CESD has developed over 110 educational modules that are available to any employer in West Virginia. West Virginia is the only state in America with a common set of educational materials.
  - The materials cover a broad range of subjects most often needed in the workplace (e.g., team building, problem-solving, communications).
  - Each module contains 1-2 hours of instructional material.
  - The modules are free to the employer.
  - A trainer certification process exists.
- CESD has certified more than 130 trainers to use these educational materials.
  - No employer in West Virginia is more than one hour's drive from a certified trainer.
  - Most trainers are community and technical college faculty.

Some statistics about these materials:

- Total instructional materials exceed 2,800 pages.
- Over 5,000 West Virginia employees have received training through the modules.
- The total development time associated with the materials is approximately 5,500 hours.

#### **DEVELOPING SPECIFIC JOB SKILLS:**

- CESD has developed a structured job-training process for preparing employees to perform specific jobs:
  - Detailed job manuals that capture the best practices for doing a job
  - A diagnostic process for documenting employee knowledge and skill achievement
- CESD has developed a Learning-a-Job training program that teaches employees how to learn job skills.
- CESD is in the process of developing training materials for key job enabler skills.
- CESD develops job mentors for employees who are learning new jobs.

Some statistics about these job skill efforts:

- Over 50 West Virginia employers have participated in this approach to developing job skills.
- The total employee impact exceeds 10,000 employees.

Over 75% of new employers in West Virginia are using structured job-training materials to develop new employees.

#### **BUILDING CAREER SKILLS IN PUBLIC EDUCATION:**

• CESD has developed over 150 lesson plans and related materials that support the school-to-work features of SB 300. These lessons are a part of the ReadSkills™ program developed by CESD.

- The lessons are available to any public school teacher in West Virginia at no cost.
- Lessons can be downloaded from the Internet.
- Teacher in-service programs have been conducted.
- The lesson plans are being used in public schools in many states.
- The lessons cover the following career topic areas:
  - Communicating
  - Developing a Career
  - Managing Self and Time
  - Solving Problems
  - Working with Others

Some statistics about our public education efforts:

- We receive over 12,000 hits per month on the ReadSkills™ web page.
- Over 225 West Virginia teachers have received instruction in the ReadSkills™ program.
- ReadSkills™ materials have been used by over 60 teachers located throughout the United States.

### **BUILDING CAREER SKILLS IN HIGHER EDUCATION:**

- CESD and WVU have initiated the Career Success Academy™ as a freshman-to-graduation career development program. Students at WVU participate in a five-course sequence:

- Exploring Career Options
  - Becoming Career Ready
  - Gaining Experience
  - Finding the First Job
  - Starting Your Career
- Students are supported with alumni mentors who help with career counseling.
  - Some statistics about the Career Success Academy:™
    - Over 500 students participated in the initial pilot year.

All students who participated in the Finding the First Job course have secured a job in their chosen career area.

### **ADVANCING THE STATE OF THE ART IN WORKFORCE DEVELOPMENT:**

- CESD has an active applied research program in workforce development. The goal of this effort is a better understanding of how people develop and sustain job competence.

- Specific research topics of interest include
  - How are job skills acquired by people with different learning styles?
  - What is the best sequence for teaching specific job skills?
  - How should specific job enabler skills be taught?
  - What are the key organizational requirements for developing and sustaining job competence?

### **SOME ADDITIONAL FACTS ABOUT CESD'S WORKFORCE DEVELOPMENT EFFORTS:**

- All of these efforts are completely self-supporting. CESD receives no base-funding from WVU, the State of West Virginia, or the federal government.
- The typical start-up time for a project is less than one month.
- CESD has a professional staff of 14 people devoted in all or part to workforce development.
- The typical cost of a workforce development project is \$25,000.

## **Workforce Development and West Virginia University The B&E Approach**

Executive Education  
College of Business and Economics  
West Virginia University  
P.O. Box 6025  
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### **A PERSPECTIVE ON WORKFORCE DEVELOPMENT:**

Improving the ability of West Virginia businesses to compete successfully in today's marketplace is the crux of our mission. In part, that success is achieved by improving the skills and abilities of West Virginia's workforce. We work closely with individual businesses, through West Virginia associations, and in collaboration with others to achieve results. We assess training needs and design and deliver training and related services to facilitate those needs. Much of the work we do can be categorized as improving leadership capacity/potential, assisting organizations experiencing growth and change, and helping organizations address their specific business challenges. In each case, we provide the service by creating a strong partnership with the client, understanding both their unique challenges and opportunities, and by developing services and training to address those needs.

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

Our clients and the services we deliver are diverse. Partners range from a Fortune 500 coal company headquartered in West Virginia to small non-profit organizations. Industries and organizations represented include: health care providers, a silkscreen print shop, retailers, coal mines, federal and state agencies, and manufacturing firms.

In addition, we work closely with West Virginia Associations. One example is a four-part management series designed for the West Virginia Hospital Association. This leadership series was delivered via long distance to three sites.

Over the next few months, we will also be delivering a 42-hour supervisory program for the West Virginia Office of Hospitality Education and Training. This series is designed for new supervisors and those who aspire to become supervisors in the West Virginia hospitality industry. Other clients include the National White Collar Crime Center, WV County Commissioners, and the WV Hospice Council. In terms of geographic distribution, we have clients throughout West Virginia.

Examples of the diversity of services include: Developing a training video to improve the management effectiveness of new supervisors at underground coal mines, consulting/mentoring of new leadership to enhance effectiveness during transition, using experiential learning like low ropes for team building, and programs on work ethics, leading change, benchmarking, etc.

We are also working closely with the office of Off-Campus Credit to develop a delivery method for Oracle training to facilitate the training needs of a major federal agency located in the Eastern Panhandle.

Executive Education also collaborates with other West Virginia institutions of higher



education to achieve success through WVU's long distance learning network.

And, we are also members of the WV Training Network for Region 4 and work closely with the West Virginia Development Office to serve clients.

#### **EXAMPLES OF FUTURE INITIATIVES:**

Some businesses, organizations, and associations in West Virginia would benefit from more choices for training services beyond what is currently available to them through custom design, national conferences, and other providers. Recognizing this need, the WVU Executive Education Program will soon offer open-enrollment courses, first in Morgantown, in topics in which there appears to be a great level of demand/interest. If successful, we will conduct programs in strategic locations around the state to accommodate the obstacles that long travel presents.



## **Workforce Development and West Virginia University The IHTIA Approach**

The Institute for the History of Technology and Industrial Archaeology  
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### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **FAIRMONT HERITAGE WORKSHOPS**

This past spring IHTIA partnered with the City of Fairmont and the West Virginia State Historic Preservation Office to conduct two workshops focused on techniques of historic preservation. The first workshop was aimed at homeowners who are interested in researching their house histories, while the second was geared toward property owners and professional contractors involved in the building trades.

The purpose of these workshops was to increase awareness of the economic benefits of historic preservation in West Virginia and develop an interest among building contractors to learn the techniques of historic preservation in order to undertake more projects in the state.

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- **MIDLAND TRAIL INDUSTRIAL HERITAGE PROJECT**

IHTIA partnered with the Midland Trail Scenic Highway Association and the West Virginia University Institute of Technology to sponsor an industrial heritage symposium in Montgomery titled "Pioneering Partnerships on the Midland Trail: Industry, Community, Education, & Tourism."

Activities included a driving tour of historic industrial sites in the Kanawha Valley and a one-day symposium on industrial heritage opportunities along the Midland Trail (which parallels US Rt. 60 from Charleston to White Sulphur Springs). Additional partners included: One Valley Bank, United National Bank of Montgomery, the DuPont Belle Plant, Elkem Metals, Cabin Creek Quilts, West Virginia Department of Transportation, and the WVU Office of the President.

The two-day event explored options for preserving and interpreting the rich industrial heritage of the Midland Trail corridor. As one of the fastest-growing sectors of the state's economy, heritage tourism provides sustainable local development and job opportunities. It also helps private sector participants improve their public image and become more involved in community affairs.

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## **Workforce Development and West Virginia University The Software Engineering Approach**

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### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **CERTIFICATE IN SOFTWARE ENGINEERING**

**Description:** This is an off-campus program consisting of five courses offered in the evenings over a one-year period. It is directed at improving the skills of persons actively employed in the software development field. Each class meets 2.5 hours once a week over a full semester or summer. Students completing the program satisfactorily receive a certificate and are qualified to continue in the master's program. This program has been offered in Fairmont (at the WV High Technology Consortium and the NASA center) since 1996. Beginning Fall 1998 it is also offered in Charleston.

**Impact:** About 25 software development professionals completed this program in 1997, and a smaller number in 1998. At least 50 are expected to take the program in the next year. These students have significantly improved their skills in their present employment. Many have continued into the master's program as well.

- **MASTER OF SCIENCE IN SOFTWARE ENGINEERING**

**Description:** This is a continuation of the certificate program for a second year, or a stand-alone two-year degree program. It is geared toward working professionals in the software industry. The program includes a total of eleven courses, counting five from the certificate program. Each class meets 2.5 hours once a week over a full semester or summer. This degree program has been offered in Fairmont (at the WV High Technology Consortium and the NASA center) since 1997. Beginning Fall 1998 it is also offered in Charleston.

**Impact:** About 10 software development professionals have completed the MSSE degree so far; this number is expected to increase substantially in the near future. Each of these students has become substantially more valuable to the West Virginia and regional companies which employ them.

- **ORACLE CERTIFICATION PROGRAM**

**Description:** This is a new program leading to official certification as a database professional by the Oracle Corporation. The total program consists of three segments; each segment is offered in four intensive weekend sessions. This program is offered at WVU for the first time in Fall 1998.

**Impact:** This program should contribute substantially to the employability of those who complete it in the extremely important fields of database technology.

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## **Workforce Development and West Virginia University The Mining Extension Approach**

Mining Extension Service  
West Virginia University  
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Morgantown, WV 26506-6070 (304) 293-3745

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **EASTERN GAS COMPRESSION ROUNDTABLE (EGCR)**

**Description:** 20 Topics, 2 workshops and 2 lectures are offered. Discussion leaders and resource leaders representing manufacturers and service organizations direct the discussion, answer questions and assist in covering all points of interest. The workshops change each year, and are mainly hands-on. The lectures usually cover up-to-date methods of operations and personnel issues. The Roundtable has recently added a Compressor Basics Track, which is a series of seven introductory classes or refresher courses on natural gas compressor operations.

**Impact:** Attendance is just over 1,000 people. The purpose of the Roundtable is to provide an organized group discussion where persons in the gas compression and related industries may add to their knowledge of the operation and maintenance of compression units and related equipment. This Roundtable is designed for all station-operating and maintenance personnel. Over 150 exhibitors are on hand to discuss special problems and applications and display equipment.

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- **APPALACHIAN UNDERGROUND CORROSION SHORT COURSE**

**Description:** The short course consists of Basic, Intermediate, and Advanced courses together with the appropriate textbook and voluntary test. Other courses include measurement, special topics, communications, computers in corrosion, and water and wastewater. There is also an outdoor clinic and workshop in practical applications in



underground corrosion control methods, cathodic protection leading into coating and materials selection.

**Impact:** Attendance is around 1,100 people. The purpose of the short course is to provide both technical and non-technical presentation of the practical and theoretical aspects of the cause of corrosion, instrumentation, corrosion surveys, cathodic protection, pipe coatings, and miscellaneous methods of corrosion control. The course is designed for personnel whose work requires a practical knowledge of underground metallic corrosion. The course provides both elementary and advanced treatment of corrosion control subjects. Over 80 exhibitors are on hand to discuss special problems and applications and display equipment.

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#### • MINING EXTENSION PROGRAM

**Description:** The Mining Extension Program, established in 1913, offers a wide variety of professional development opportunities for individuals employed in the mining industry and those who wish to enter the mining industry. West Virginia law requires that any newly employed miner must attend a 40-hour orientation class before working on a surface mine or a 80-hour orientation class for underground. The program also offers the following courses: 40-hour apprentice electrician, 8-hour electrician retraining, 16-hour mine rescue or fire safety, 8-hour shot-firer's, 90 hour-mine foreman and tailored programs for companies.

**Impact:** During 1997 over 1,470 students participated in the variety of professional development courses offered by the Mining Extension Program. The apprentice courses educate those entering the mining industry and prepare them for the certification process, which is conducted by the state. The other courses either allow the participant to maintain a certification, which is necessary for continued employment, or prepare them for certification in a certain area. This additional certification assists them in keeping their current job or increases their employability. We have also worked with several unemployed miners to assist them in obtaining additional certification, which has led to employment.

The economic impact of offering these courses is critical to certain mining areas in the state. According to 1996 WV Coal Association information, West Virginia's coal

industry paid approximately \$1.07 billion in direct wages. In comparison, all of state government paid approximately \$861.4 million.

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- **ANNUAL SAFETY DAY**

**Description:** The Mining Extension Program cosponsors this annual event with the District 3 Office of the Mine Safety and Health Administration; the West Virginia Office of Miners' Health, Safety and Training; and Post 5 of the National Mine Rescue Association. The event is a competition between company teams in the areas of mine rescue, first aid, Emergency Medical Technician (EMT), and troubleshooting (benching) a self-contained breathing apparatus. The two-day event is held in August at the Coliseum, Shell Building, and Rugby Field in Morgantown.

**Impact:** The 1998 Annual Safety Day attracted 18 mine rescue teams from West Virginia, Pennsylvania, Ohio, Maryland, Kentucky, Illinois, and Virginia. This event allows participants to test their skills and knowledge in the event of an emergency. Each participant is judged by a team of officials while working the problem and receives scores in various categories, which allows individuals to recognize areas that need improvement. The total attendance for 1998 was approximately 300 people, including the sponsors.

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- **TRAINING RESOURCES APPLIED TO MINING/INSTRUCTORS CONFERENCE**

**Description:** The Mining Extension Program cosponsors this annual conference at the Mine Safety and Health Administration's (MSHA) Mine Safety Academy near Beckley, WV, in conjunction with MSHA, The Pennsylvania State University, and the University of Kentucky. The target audience includes industry safety professionals, federal and state regulatory professionals, and members of academia interested in the minerals industry. The conference focuses on providing usable information to the target audience in the area of mine safety, both surface and underground. Some past topics have included the following: ergonomic issues in

mining, electrical safety, industrial hygiene, fall protection, mine fire preparedness, and supervisor training.

**Impact:** This program provides professional development and tools for the target audience to utilize in their day-to-day assignments in improving safety in the minerals industry. Past enrollments have averaged approximately 350 people from across the nation.

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● **PETROLEUM TECHNOLOGY TRANSFER COUNCIL (PTTC)**

**Description:** The Petroleum Technology Transfer Council (PTTC) was formed in 1994 by the U.S. oil and natural gas exploration and production (E&P) industry to identify and transfer upstream technologies to domestic producers. The PTTC consists of 10 Regional Lead Organizations (RLO) in the country. The Appalachian Oil and Natural Gas Research Consortium (AONGRC) at WVU is the RLO for West Virginia and the surrounding region. The AONGRC is headquartered at the NRCCE and was formed in 1989 as a consortium of the geological surveys of four Appalachian states (Kentucky, Ohio, Pennsylvania, and West Virginia and the departments of Petroleum and Natural Gas Engineering and Geology and Geography at WVU). Nine experts from the department of Petroleum and Natural Gas Engineering (PNGE) and Geology and Geography (G&G) at West Virginia University and the West Virginia Geological Survey (WVGS) staff the RLO Resource Center in Morgantown.

All 10 regional lead organizations of the PTTC are subcontractors under the PTTC and receive direction and oversight from their respective producer advisory groups. The center, and each of the nine other RLOs, are: 1) conducting problem-identification workshops to identify and prioritize common technological problems faced by operators in specific regions, types of reservoirs, and environments; 2) conducting focused technology workshops, seminars, and other regional forums to disseminate technology addressing the identified high-priority problems; and 3) creating a resource center to provide operators with physical and electronic access to technical reference materials,

petroleum engineering, and geoscientific technical assistance; state-of-the-art hardware and software; and unbiased referrals to providers of technology.

**Impact:** PTTC's technology programs help producers to reduce costs, improve operating efficiency, increase ultimate recovery, enhance environmental compliance, and add new oil and gas reserves. PTTC identifies producers' priority technical problems and communicates them to the R&D community. The most recent focused Technology Workshop (August 20, 1998) was intended to give the oil and gas producers and gas storage operators an introduction to the advancements in coil tubing technology available in the Appalachian Basin.

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● **BASIC COST ENGINEERING**

**Description:** This is a two day course consisting of 15 professional development hours or 1.5 Continuing Education Units on basic cost engineering concepts. This includes basic cost engineering terminology, types of cost estimates, profit improvement, cost reduction, cost indexes, improvement curves, breakeven analysis, taxes, depreciation, and conceptual cost modeling. This course is provided to help West Virginia Professional Engineers meet their professional development requirements as required by the State Board of Registration. It involves lecture and four problem sessions to apply the tools and techniques presented.

**Impact:** The course is attended by 10-20 engineering professionals each year since 1994; more than 100 students have participated in the course. Many participants from other states attended to meet their professional development requirements. Interest in this course led to the development of the other three courses currently also being offered.

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- **ENGINEERING ECONOMY BASICS**

**Description:** This is a two day course consisting of 15 professional development hours or 1.5 Continuing Education Units on basic engineering economy concepts. This course includes engineering economy terms, cash flow diagrams, present worth analysis, future worth analysis, average annual equivalent payments, gradient payments, continuous compounding, methods of analysis, replacement analysis, benefit/cost, depreciation techniques and tax considerations. This course is provided to help West Virginia Professional Engineers meet their professional development requirements as required by the State Board of Registration. It involves lecture and seven problem sessions to apply the tools and techniques presented.

**Impact:** Ten to 20 engineering professionals have attended the course each year since 1996. Many participants from other states attended to meet their professional development requirements in addition to West Virginia residents.

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- **INTERMEDIATE COST ENGINEERING**

**Description:** This is a two day course consisting of 15 professional development hours or 1.5 Continuing Education Units on cost engineering concepts. It is a follow-up course to the basic cost engineering course. The course considers progress and cost control, measuring work progress, capital and operating costs, turnover ratio, knowledge and experience curves, AACE estimating classifications, AACE estimating preparation costs, discrete cost estimating, parametric cost estimating, and costing for metal casting. This course is provided to help West Virginia Professional Engineers meet their professional development requirements as required by the State Board of Registration. It involves lecture and five problem sessions to apply the tools and techniques presented.

**Impact:** The course was first offered in 1998. Many participants from other states attended to meet their professional development requirements in addition to West Virginia residents.



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● **INTERMEDIATE ENGINEERING ECONOMY**

**Description:** This is a two day course consisting of 15 professional development hours or 1.5 Continuing Education Units on engineering economy concepts and is a follow-up course to the Engineering Economy Basics course. The includes a review of the engineering economy factors, inflation considerations, life cycle costs, scheduling and critical path, risk evaluation, and capital budgeting. This course is provided to help West Virginia Professional Engineers meet their professional development requirements as required by the State Board of Registration. It involves lecture and seven problem sessions to apply the tools and techniques presented.

**Impact:** The course was offered in 1998 for the first time. Many participants from other states attended to meet their professional development requirements in addition to West Virginia residents.

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● **INDUSTRIAL ENERGY ANALYSIS AND DIAGNOSTICS WORKSHOP**

**Description:** The purpose of the workshop was to educate professional engineers of various disciplines in terms of industrial energy conservation and management. The workshop introduced the basics in energy assessment and conservation, focusing on topics such as electrical motors, compressors, heat generating equipment, lighting, waste heat recovery, power factor correction, boilers, and insulation. Various Energy Conservation Opportunities (ECOs) were discussed, enabling the practicing engineer to try implementation at the plant. The workshop offered 1.5 Continuing Education Credits (CEUs) from the WVU Extension Service Conference Office to interested participants. This is equivalent to 15 Professional Development Hours. The workshop was held on July 30 and 31, 1998, and was attended by 12 participants. The format for the workshop was lecture followed by problem sessions, computer lab, and software usage. The



workshop was offered free to the participants through the West Virginia Industries of the Future program.

**Impact:** The workshop addressed real issues in plant energy usage and conservation and the participants identified with the material presented and considered it useful for purposes of energy conservation implementation at the plant. From the positive workshop evaluation by the participants it was evident that the workshop had made a significant impact in terms of professional and workforce development issues.

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- **TRANSPORTATION TECHNOLOGY TRANSFER/LOCAL TECHNICAL ASSISTANCE PROGRAM**

**Description:** The program, which is supported by the Federal Highway Administration, the WV Department of Transportation, and WVU, was established to serve the State's municipalities by disseminating information on techniques for managing the road and highway infrastructure. The goal is to translate state-of-the-art technologies in roads and streets for use by local highway and transportation personnel. Through training and information dissemination, the program helps the state's municipalities (and other engineering and construction organizations involved in the highway field) to get the most out of their limited budgets and to operate and maintain safe and efficient roadways. Among other things, a safe and efficient road system will promote economic development.

**Impact:** Through a newsletter, we reach public works employees in every county in the state. Our ROADS Scholar Program is a program where a municipal or state road/street employee can take 9 one-half day training sessions on topics such as road surface management, equipment safety, drainage, tort liability and risk management, work zone traffic control, and traffic signs and markings. At the completion of the courses, the participant is designated a ROADS Scholar and receives a plaque and ball cap. While not a certification program, it is a continuing education program, which also raises the level of professionalism of public works employees. Over 150 individuals throughout the state have been designated ROADS Scholars. Over 300 more are participating in the program at the current time.

The past two years we have had a workzone signing packaged program. Based on documented need, we distributed over 15 work zone signing packages (valued at about \$2500) to communities all over the state. As part of the award, the community agrees that its public works personnel will undergo a one-half day training course in

work zone traffic control. With appropriate education and with proper equipment, the personnel can keep traffic flowing safely through work areas.

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- **QUALITY AND RELIABILITY ENGINEERING WORKSHOP**

**Description:** This is a two day course consisting of 16 professional development hours or 1.6 Continuing Education Units on Quality and Reliability Engineering concepts. This course is provided to help West Virginia Professional Engineers meet their professional development requirements as required by the State Board of Registration. It involves lecture and problem sessions to apply the tools and techniques presented.

**Impact:** Ten to twenty engineering professionals have attended the course per year. Many participants from other states attended to meet their professional development requirements in addition to West Virginia residents.

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- **COMPUTER AIDED DESIGN WORKSHOP**

**Description:** This is a two day course consisting of 16 professional development hours or 1.6 Continuing Education Units on Computer Aided Design concepts. This course is provided to help West Virginia Professional Engineers meet their

professional development requirements as required by the State Board of Registration. It involves lecture and problem sessions to apply the tools and techniques presented.

**Impact:** Ten to 20 engineering professionals have attended the course per year. Many participants from other states attended to meet their professional development requirements in addition to West Virginia residents.

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- **ANNUAL INTERNATIONAL CONFERENCE ON GROUND CONTROL IN MINING**

**Description:** This three-day conference series, found by Dr. S.S. Peng, began in 1981, and is widely acknowledged as a forum for the exchange of information among researchers, educators, mine operators, consultants, government regulators, equipment manufacturers, and mining industry professionals. Emphasis is placed on applied theories and case histories on roof and strata control. Topics include roof bolting, pillar design and extraction, surface subsidence, longwall mining, bumps/bursts, mine design, high horizontal stresses, slope failure, rock properties, etc. Each year speakers are selected from all three coal-fields in the U.S. and major coal producing countries such as Australia, Brazil, Canada, China, India, Italy, Japan, Mexico, Russian, South Africa, Ukraine, and United Kingdom.

**Impact:** The Conference has been recognized as the best conference on the subject all over the world and became the focus point of annual gathering for all professionals involved.

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## **Workforce Development and West Virginia University The NRCCE Approach**

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### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

#### *Program Name:*

National Environmental Training Center for Small Communities (NETCSC) is a national program supported by the US EPA to develop, demonstrate, and disseminate training materials appropriate for use by small and rural communities and the technical specialists who assist these communities. The focus of the program is to provide information and training to enable small communities to address their needs in providing safe drinking water, low cost wastewater treatment facilities, and solid waste disposal systems.

#### *Impact / Accomplishments:*

Since 1994, more than 1,500 people have attended one of 13 training courses offered by NETCSC for community officials, trainers, and assistance providers. Our quarterly newsletter, *E-train*, has 7,000 subscribers nationwide. NETCSC maintains a toll-free assistance telephone line, distributes low-cost training resources, and hosts online training via computer networks. NETCSC has provided assistance to West Virginia communities to select technologies appropriate for our rural environment, especially in addressing the need to rebuild community systems and services after natural disasters such as floods. Extension specialists and circuit riders, both in West Virginia and nationwide, benefit from NETCSC programs by being better prepared to assist small community officials in their regions because of the training provided by these programs. Community officials who have participated in these programs or use information contained in our outreach publications are able to make more knowledgeable decisions in meeting their community responsibilities in operating drinking water, wastewater, and solid waste disposal systems. The program has received approximately \$8 million in funding since 1991.

#### *Organizational Contact:*

Richard Phalunas, Ed.D., Director, NETCSC, Telephone: 304/293-4191 or 800/624-8301. E-mail: rphaluna@wvu.edu

*Program Name:*

The National Alternative Fuels Training Program Consortium [NAFTPC] is a national program supported by the US EPA which develops and disseminates training and instructional materials for automotive technicians to meet national needs in converting and servicing alternative fuel vehicles that run on alternative fuels such as natural gas, propane, alcohol-based fuels, and electricity.

*Impact / Accomplishments:*

The NAFTPC is an organization of 20 academic institutions and other members from industry and professional organizations which provides training nationwide for both instructors and students who service alternative fuel vehicles. The Consortium has developed nine training products and instructed over 3,000 students in automotive training programs. In addition to providing instruction to traditional students, the National Training Laboratory located at WVU has provided training for instructors from the participating institutions, fleet managers who instruct their technician staffs, and company officials. WVU partners with the Automotive Research Technology Corporation located on Earl Core Highway in Morgantown to assist in technology transfer to the regional business community. The NAFTPC program is an important contributor to the programs of the WV State Energy Office in meeting mandates for employing alternative fuel vehicles in our state fleets. In addition to hands-on classroom instruction, the NAFTPC has developed a one-day seminar for managers to provide an overview of our national programs and goals in using alternative fuels to reduce emissions and increase energy security. The program has received over \$5.8 million in funding and is initiating a new five-year plan to expand its activities to a wider audience of educational institutions and students, including high school programs.

*Organizational Contact:*

Richard Bajura, Interim Director, NAFTPC. Phone: 304/293-2867. E-mail: bajura@wvu.edu

*Program Name:*

The National Environmental Education Training Center [NEETC], headquartered at Indiana University of Pennsylvania, is a cooperative program involving West Virginia University, the International Union of Operating Engineers, and the International Labor Organization. NEETC develops new technologies and training for workers who remediate hazardous waste sites.

*Impact / Accomplishments:*

NEETC programs are designed to improve worker productivity and reduce health risks in remediation jobs where the environmental hazards require sophisticated and cumbersome protection for personnel. The program seeks to involve workers in the initial stages of the design of a new technology so that worker health and safety considerations can be built into the



hardware and operating processes from the beginning. Previous approaches have required retrofitting either the equipment or the worker protective gear in the field, sometimes after workers have already been exposed to unnecessary health risks. The program has developed a series of technologies to assist the U.S. Department of Defense and the U.S. National Institutes for Occupational Health and Safety in addressing remediation of both nuclear and mixed hazardous waste sites. Training programs help workers protect their health while learning skills which enable the worker to enter into a high technology workforce.

*Organizational Contact:*

D. Courtney Black, WVU Program Director, NEETC. Phone: 304/293-2867.  
E-mail: dblack@wvu.edu

*Program Name:*

The Petroleum Technology Transfer Council Resources Center [PTTCRC] provides physical and electronic information and technical assistance for oil and natural gas producers in the Appalachian Region regarding exploration and production of these resources.

*Impact / Accomplishments:*

The PTTCRC maintains a resource center open to the public for in-person visits or for access via telephone or electronic communications. The PTTCRC conducts workshops in West Virginia and other Appalachian states to assist engineers and scientists in developing new skills and to operate new computer programs and equipment for oil and natural gas production. Staff members from the Petroleum Engineering and Geology & Geography Departments at WVU and the WV Geological and Economic Survey provide consulting and information services during each business day for walk-in visitors or telephone callers. The PTTCRC programs identify producer's technical needs, provide solutions to technical problems, conduct outreach programs, and provide information data bases for use by industry. Members of the PTTCRC also support the research programs of the Appalachian Oil and Natural Gas Research Consortium [AONGRC] which is housed at West Virginia University and includes participants from the surrounding state geological surveys. Overall funding for the PTTCRC program has exceeded \$300,000 to date. The programs of the AONGRC have received over \$4 million in funding to date.

*Organizational Contact:*

Douglas Patchen, Director, AONGRC/ PTTCRC. Phone: 304/293-2867. E-mail: dpatchen@wvu.edu

*Program Name:*

Industries of the Future -- West Virginia [IOFWV] is focused on improving industrial energy efficiency, reducing pollution, creating and preserving jobs, and increasing productivity. The program focuses on industrial sectors such as agriculture, aluminum, steel, chemicals, glass making, forest products, and mining.

*Impact / Accomplishments:*

The IOFWV program has held a series of workshops and conferences throughout West Virginia which focused on providing training and technology transfer to engineers, shop managers, and designers on how to improve the efficiency of their manufacturing processes and increase productivity. West Virginia was the first state to organize and run an IOF program which was based on the national Industries of the Future program originating in the US Department of Energy Office of Industrial Technologies. IOFWV works with the West Virginia Development Office, the WV Science and Technology Council, the WV Department of Environmental Protection, and West Virginia industries to develop state-wide and regional programs designed to enhance productivity in our industries and our workforce.

*Organizational Contact:*

Carl Irwin, IOF-WV Program Coordinator. Phone: 304/293-2867. E-mail: cirwin2@wvu.edu

*Program Name:*

The National Mine Land Reclamation Center [NMLRC] conducts research and technology transfer programs to resolve mining-related environmental problems such as acid mine drainage polluting our rivers and streams, mine subsidence, polluted groundwater, and acidic soil.

*Impact / Accomplishments:*

The NMLRC conducts conferences and workshops for mine operators and regulatory agency personnel to provide information and instruction on utilizing effective technologies which will remediate environmental damage due to mining. The NMLRC publishes the *Minelands Newsletter* and the NMLRC Annual Report. A handbook published by NMLRC researchers is a standard in the field. NMLRC personnel also provide training in completing permit applications associated with mining and reclamation operations. Programs are conducted in close cooperation with personnel from the West Virginia Department of Environmental Protection, who occupy space in the NRCCE facility.

*Organizational Contact:*

Paul Ziemkiewicz, Director, NMLRC. Phone 304/293-2867. E-mail: pziemkie@wvu.edu

*Program Name:*

The National Small Flows Clearinghouse [NSFC] is a national program supported by the US Environmental Protection Agency, that helps small communities, such as those in West Virginia, find affordable wastewater treatment alternatives to protect public health and the environment.

*Impact / Accomplishments:*

Small communities comprise more than 70 percent of all the communities in the United States. The programs of the NSFC are targeted to improve the skills and understanding of people like local government officials and citizens in small communities, engineers, wastewater

treatment professionals, and regulatory officials, in finding low cost solutions to wastewater treatment problems and for meeting environmental mandates. Educational programs provided by the NSFC have helped communities like those outside Fairmont, WV, save over \$3,287 per home in installing wastewater treatment facilities. The NSFC produces over 300 free or low-cost publications, maintains a toll free hotline, a web site, computer data bases, and newsletters with over 65,000 subscribers to assist in technology transfer to its stakeholders. The toll-free hotline provides an opportunity to obtain technical assistance via phone. The program has been in operation since 1979 and has received over \$16 million in funding.

*Organizational Contact:*

Peter Casey, Program Coordinator, NSFC, Phone: 304/293-4191 or 800/624-8301.  
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*Program Name:*

The National Drinking Water Clearinghouse [NDWC] helps small communities find affordable ways to provide safe drinking water to residents. This program is an important resource for other agencies seeking to provide financial, management, and regulatory information to small communities.

*Impact / Accomplishments:*

Nearly 90 percent of the nation's community water systems serve fewer than 10,000 people each. The NDWC provides training and information to local government officials, citizens, water treatment professionals, regulatory officials, assistance organizations, and engineers to understand the available low-cost technologies. NDWC operates a toll-free hotline, offers more than 200 free or low-cost information resources, maintains computer databases, and circulates newsletters to more than 25,000 subscribers. The program is funded through a grant from the Rural Utilities Service of USDA and has received over \$5.6 million since its inception in 1991.

*Organizational Contact:*

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*Program Name:*

The Carbon Products Consortium [CPC] is a group of industry, national laboratory, and university partners who are developing energy-efficient, environmentally friendly processes for the economical production of high-value carbon products from coal.

*Impact / Accomplishments:*

The CPC has conducted a series of workshops for industry representatives to identify ways carbon products can be produced economically from source materials such as coal. The program has been supported by the US Department of Energy and operates and has formed partnerships with other academic institutions and industries in other regions. The program shows

promise of evolving into a high technology industry located in West Virginia. Funding for the overall program in carbon product development exceeds \$3.5 million since 1992.

*Organizational Contact:*

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*Program Name:*

The National On-Site Demonstration Project [NODP] encourages the adoption of appropriate wastewater treatment and management systems by financing, implementing, and demonstrating technologies that help small communities treat wastewater, prevent, pollution, and protect health.

*Impact / Accomplishments:*

Small communities often lack the technical and financial resources to adequately provide basic sanitary services that protect them from disease and prevent environmental pollution. Many areas of West Virginia have steep slopes and unsuitable soils for conventional septic tanks or other onsite wastewater treatment methods. The NODP, a nationwide program serving communities in many states, has worked with small community officials and wastewater systems personnel in West Virginia to demonstrate treatment technologies that can meet these environmentally challenging conditions. Once the technology is demonstrated, other communities can inspect the operation of the newly-installed systems and implement similar systems in their own communities. The WVU site, located at Chestnut Ridge outside of Morgantown, WV, is unique in that it is the only one of the demonstration projects located in a public park. This setting allows local government officials, state regulatory agencies, engineers, consultants, system installers, and the general public easy access to view the various treatment systems at work. In all, five projects are contemplated with a total funding expected to exceed \$6 million. One of the projects is specifically targeted to the needs of West Virginians impacted by severe flooding which hit our state.

*Organizational Contact:*

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**ACTIVITIES WHICH PROMOTE WORKFORCE DEVELOPMENT:**

*Legend for Programs Cited:*

NETCSC - National Environmental Training Center for Small Communities  
NAFTPC - National Alternative Fuels Training Program Consortium  
NEETC - National Environmental Education and Training Center

PTTCRC - Petroleum Technology Transfer Council Resource Center

IOF-WV - Industries of the Future - West Virginia

NMLRC - National Mine Land Reclamation Center

NSFC- National Small Flows Clearinghouse

NDWC - National Drinking Water Clearinghouse

CPC - Carbon Products Consortium

NODP - National On-Site Demonstration Project

| General Title            | Specific Activity         | NETCSC | NAFTPC | NEETC | PTTCRC | IOF-WV |
|--------------------------|---------------------------|--------|--------|-------|--------|--------|
|                          |                           |        |        |       |        |        |
| Clearinghouse Activities | Newsletters / Mailings    | X      | X      | X     | X      | X      |
|                          | Technl Assistance - Phone | X      | X      |       | X      |        |
|                          | Computer Chat Rooms       | X      | X      |       |        |        |
|                          | Web Sites                 | X      | X      | X     | X      | X      |
|                          | Data Bases                | X      | X      | X     | X      | X      |
|                          | Information Library       | X      | X      |       | X      |        |
|                          | Public Information Room   | X      | X      |       | X      |        |
|                          | Video Tapes               | X      | X      |       |        |        |
|                          | Archival Journals         |        |        |       |        |        |
|                          | Teleconferences           | X      | X      |       |        | X      |
|                          |                           |        |        |       |        |        |
|                          |                           |        |        |       |        |        |
| Conference Activities    | Conferences at WVU        | X      | X      | X     | X      | X      |
|                          | National Conferences      | X      | X      |       | X      | X      |
|                          | Video Teleconferences     | X      | X      |       | X      | X      |
|                          | Exhibits & Booths         | X      | X      | X     | X      | X      |
|                          |                           |        |        |       |        |        |
|                          |                           |        |        |       |        |        |
|                          |                           |        |        |       |        |        |



| General Title            | Specific Activity          | NETCSC | NAFTPC | NEETC | PTTCRC | IOF-WV |
|--------------------------|----------------------------|--------|--------|-------|--------|--------|
|                          |                            |        |        |       |        |        |
| Continuing Education     | Short Courses              | X      | X      | X     | X      |        |
|                          | Workshops                  | X      | X      | X     | X      | X      |
|                          | Training Materials         | X      | X      | X     |        |        |
|                          | CEUs / Certificates        | X      | X      |       | X      |        |
|                          | Distance Education         |        | X      |       |        |        |
|                          | Nat. / Regional Cnferences | X      | X      | X     | X      | X      |
|                          |                            |        |        |       |        |        |
| Professional Development | Technology Dev. Wkshops    | X      | X      | X     | X      | X      |
|                          | Mentoring                  | X      | X      |       | X      | X      |
|                          | Consulting / Tech Assist   | X      | X      |       | X      |        |
|                          | Seminars                   | X      | X      | X     | X      | X      |
|                          | Conf. Presen. / Papers     | X      | X      | X     | X      | X      |
|                          | Computer Laboratory        |        | X      |       | X      |        |
|                          |                            |        |        |       |        |        |
| Partnerships             | Industry                   | X      | X      | X     | X      | X      |
|                          | Academic Partnerships      | X      | X      | X     | X      | X      |
|                          | Government Partnerships    | X      | X      | X     | X      | X      |
|                          |                            |        |        |       |        |        |

| General Title            | Specific Activity         | NMLRC | NSFC | NDWC | CPC | NODP |
|--------------------------|---------------------------|-------|------|------|-----|------|
|                          |                           |       |      |      |     |      |
| Clearinghouse Activities | Newsletters / Mailings    | X     | X    | X    | X   |      |
|                          | Technl Assistance - Phone | X     | X    | X    |     | X    |
|                          | Computer Chat Rooms       |       | X    | X    |     |      |
|                          | Web Sites                 | X     | X    | X    | X   | X    |
|                          | Data Bases                | X     | X    | X    |     |      |
|                          | Information Library       |       | X    | X    |     | X    |
|                          | Public Information Room   |       | X    | X    |     | X    |
|                          | Video Tapes               |       | X    | X    |     |      |
|                          | Archival Journals         |       | X    |      |     |      |
|                          | Teleconferences           |       | X    | X    | X   | X    |
|                          |                           |       |      |      |     |      |
|                          |                           |       |      |      |     |      |
| Conference Activities    | Conferences at WVU        | X     | X    | X    | X   | X    |
|                          | National Conferences      | X     | X    | X    | X   |      |
|                          | Video Teleconferences     | X     | X    | X    |     | X    |
|                          | Exhibits & Booths         | X     | X    | X    | X   | X    |
|                          |                           |       |      |      |     |      |
|                          |                           |       |      |      |     |      |
|                          |                           |       |      |      |     |      |
| General Title            | Specific Activity         | NMLRC | NSFC | NDWC | CPC | NODP |
|                          |                           |       |      |      |     |      |
| Continuing Education     | Short Courses             |       |      |      |     |      |
|                          | Workshops                 | X     | X    | X    | X   | X    |
|                          | Training Materials        |       | X    | X    |     | X    |
|                          | CEUs / Certificates       |       |      |      |     |      |

|                             |                              |   |   |   |   |   |
|-----------------------------|------------------------------|---|---|---|---|---|
|                             | Distance Education           |   |   |   |   |   |
|                             | Nat. / Regional<br>Cnfernces | X | X | X | X |   |
|                             |                              |   |   |   |   |   |
| Professional<br>Development | Technology Dev.<br>Wkshops   | X | X | X | X | X |
|                             | Mentoring                    | X | X | X |   | X |
|                             | Consulting / Tech<br>Assist  | X | X | X | X | X |
|                             | Seminars                     | X | X | X | X | X |
|                             | Conf. Presen. /<br>Papers    | X | X | X | X | X |
|                             | Computer Laboratory          |   |   |   |   |   |
|                             |                              |   |   |   |   |   |
| Partnerships                | Industry                     | X | X | X | X | X |
|                             | Academic<br>Partnerships     | X | X | X | X | X |
|                             | Government<br>Partnerships   | X | X | X | X | X |
|                             |                              |   |   |   |   |   |

## **Workforce Development and West Virginia University The Alternative Fuels Approach**

Mechanical and Aerospace Engineering  
College of Engineering and Mineral Resources  
West Virginia University  
P.O. Box 6106  
Morgantown, WV 26506-6106  
304-293-3111-ext. 360

### **CURRENT PROJECT WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **ALTERNATIVE FUEL VEHICLES WORKSHOPS FOR MUNICIPAL, COUNTY, AND STATE GOVERNMENT MANAGERS**

One day workshops are offered at various locations around the state to provide information to government administrators and fleet managers of municipal, county, and state governmental units to assist in the procurement and utilization of alternative-fueled vehicles to replace the gasoline- and diesel-fueled vehicles in their fleets. Topics covered include: cost analysis, environmental benefits, maintenance procedures, fueling technology, and procurement procedures for alternative fueled vehicles.

Approximately two workshops per year have been presented for each of the past five years, and attended by over 400 government managers from around the state. These workshops have assisted 23 counties, 8 municipalities, and 6 state agencies to procure and operate alternative-fueled vehicles as part of their vehicle fleet. The utilization of alternative-fueled vehicles helped the state to reduce air pollution, meet federal clear air act requirements, and reduce fuel costs.

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## **Workforce Development and West Virginia University The Ag Approach**

The College of Agriculture, Forestry, and Consumer Sciences  
West Virginia University  
P.O. Box 6108  
Morgantown, WV 26506-6108; (304) 293-2395

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **THE WESTVACO NATURAL RESOURCES CENTER**

The Westvaco Natural Resources Center stands as an example of what education, government, and business can accomplish by working together. Located in the West Virginia University Forest, the million-dollar facility provides space for a variety of critical activities. It facilitates University research and teaching activities and provides a space for natural resource professionals to meet and explore issues and concerns vital to West Virginia's growth.

Funded entirely through donations from individuals and industry, the Center is overseen by the Division of Forestry of the College of Agriculture, Forestry, and Consumer Sciences.

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jmcneel@wvu.edu

- **THE WEST VIRGINIA UNIVERSITY CHILD DEVELOPMENT LABORATORY  
(NURSERY SCHOOL)**

The term "synergy" comes to mind when you think of the WVU Child Development Laboratory. In addition to providing high quality day care for working parents in the Morgantown area, the Nursery School also provides valuable experiential learning opportunities to students in the Child Development and Family Studies program of the Division of Family and Consumer Sciences. Cutting-edge techniques in early childhood development are employed, and the school is taking the lead in incorporating computers into early childhood education.



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- **THE KEARNEYSVILLE TREE FRUIT RESEARCH AND EDUCATION CENTER WEB SITE**

An award-winning Internet presence, the Kearneysville site provides matchless information on tree-fruit diseases and insects for growers and producers. With 193 pages and more than 300 photographs, WVU offers what University Business Magazine calls "first-rate design." They add, "The richness of information is matched by the organization: Clear links are established between topics, and the same menu bar at the top of all main pages makes moving around a snap."

Web surfers from 60 countries have dropped in on the site. Since it was launched in 1996, more than 15,000 users have accessed it. It's used as a course supplement by universities and colleges in Massachusetts, Indiana, Minnesota, and Washington. Visit the site at <http://www.caf.wvu.edu/kearneysville/wvufarm1.html>.

Contact: Dr. Alan Biggs  
Professor of Plant Pathology  
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abiggs@WVNVMS.BITNET.

- **THE WEST VIRGINIA UNIVERSITY SOIL TESTING LABORATORY**

An invaluable resource to agricultural producers large and small, the West Virginia University Soil Testing Laboratory provides a wide variety of analytical services to its clientele. In addition, it provides excellent learning opportunities to students in WVU's Division of Plant and Soil Sciences. Through examination of samples from sites throughout the state, scientists help everyone from backyard gardeners to large-scale producers make the most of their land.

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- **INDUSTRIAL ECONOMICS, ENVIRONMENT, AND EDUCATION**

For close to 10 years, faculty from West Virginia University's Division of Forestry and

College of Business and Economics and representatives of the West Virginia Department of Education have helped teachers from primary, middle, and high schools across the state gain a better understanding of applied economics and free trade concepts, along with a perspective on the nuts and bolts of economics on a state and national scale. The course was developed by WVU faculty and is funded, in part, by industry supporters. Program leaders feel that the program is important in helping the citizens of West Virginia understand the importance of business and markets relative to local economics. The program features classroom activities, tours of business enterprises in the region, and panel discussions.

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- **IDENTIFYING THE ENERGY SOURCES IN CATTLE FEEDS**

West Virginia University became the first institution to determine the starch and sugar content of animal feeds for extension, industry, and farm personnel on a national basis. The analytical service has become a popular addition to routine analysis for industry personnel throughout the country. As it has become more and more evident that starch and sugar have a major role as carbohydrate sources for microbes, interest in these fractions has increased.

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- **THE APPALACHIAN HARDWOOD CENTER**

The Appalachian Hardwood Center (AHC) was established in 1987 by the West Virginia legislature in recognition of the need for technical and research support for the state's growing wood products industry. The Center, first and foremost, provides industry with ready access to a staff of technical support personnel with expertise in areas related to the wood products industry.

The mission of the AHC evolves as the wood products industry in West Virginia continues to prosper and as emerging problems and issues require new solutions. These challenges are addressed in several ways: training; technical assistance; forest resource and industry data; compliance assistance; research; and communication.

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- **THE INTERNATIONAL CULTURE COLLECTION OF ARBUSCULAR AND VESICULAR-ARBUSCULAR MYCORRHIZAL FUNGI**

The International Culture Collection of Arbuscular and Vesicular-Arbuscular Mycorrhizal Fungi (INVAM) provides consistent quality source of fungal germ plasm that is readily available for researchers, educators, students, and commercial development enterprises. Funded by the National Science Foundation and West Virginia University, INVAM is administered by the Division of Plant and Soil Sciences of the College of Agriculture, Forestry, and Consumer Sciences. In addition to growing, maintaining, and preserve living germ plasm of fungal accessions recovered from diverse habitats, INVAM has extensive facilities to assist individuals in obtaining hands-on experience at culturing, isolating, manipulating, and identifying many species of arbuscular mycorrhizal fungi. Voucher specimens are organized in such a way that a visitor can learn a great deal with minimal to no supervision or assistance. Cultures brought by a visitor can be processed quickly and efficiently.

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## Workforce Development and West Virginia University The Journalism School Approach

Perley Isaac Reed School of Journalism  
West Virginia University  
P.O. Box 6010  
Morgantown, WV 26506-6010; (304) 293-3505

### CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:

- **BETTER BROADCAST STORYTELLING: PROFESSIONAL DEVELOPMENT SEMINARS**

**Description:** This summer, the project director conducted two-day professional development seminars at three small-market television stations throughout West Virginia: WOAY-TV in Oak Hill, WTAP-TV in Parkersburg, and WBOY-TV in Clarksburg. News personnel (reporters and producers) learned techniques to help them enhance their writing, story-producing, and on-air performance skills. In addition, media professionals were coached individually. Examples of each person's work were critiqued and participants were then given specific suggestions on how to improve their work.

This summer's workshops were considered a pilot project that could be repeated in future summers and could be expanded to cover other small-market stations throughout the region. Stations paid for all of the travel expenses, but the director volunteered consulting services.

**Impact:** The workshops received positive evaluations. WTAP-TV News Director Kathy-Lucas Stephens writes *"I believe the two-day seminar was an unqualified success. All personnel were stimulated by the seminar, leaving it with a better direction of how to take their reporting and writing skills to a new level."* WBOY-TV News Director Bob Walters writes, *"Several of my on-air staff members have already expressed to me directly how valuable the critique sessions were in improving their performances. You have provided a consulting service for free that would have not been possible with my station's limited resources."*

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- **WEST VIRGINIA PRESS ASSOCIATION WRITERS COACHING WORKSHOPS**

**Description:** The West Virginia Press Association funds three-to-five day writers coaching seminars for participating newspapers throughout West Virginia. The project director created and developed the workshops in 1991, and the WVPA began sponsoring them in 1992. Over the past six years, more than 35 of these customized group seminars have helped reporters at 24 newspapers in the state receive professional-level journalism training and benefit from one-on-one writing coaching sessions.

Most of these newspapers could not afford to bring traditional writing coaches into their newsrooms or to send their staffs to outside seminars. For some papers — especially at the weeklies — the seminars represent their only opportunity for formal journalism training, because many have never graduated from college let alone from an accredited journalism school. In addition, because the project director spends at least four days on site, it allows news staff a rare chance to examine and to improve their work at leisure — something few have time to do under normal deadline pressures.

**Impact:** The project director says that conducting these seminars makes her a “*better journalism teacher*.” And the state’s newsrooms benefit from the luxury of a free writing coach. The WVU School of Journalism benefits from being given the opportunity to discover and to understand the real problems and challenges facing West Virginia’s practicing journalists — helping faculty better prepare their students for the real work world within the state press.

These newsroom visits also help to establish and maintain an ongoing network between the state’s newspapers and the J School. This helps in placing quality interns and entry-level reporters at participating papers, who then alert the project director to job and internship opportunities for students. Over the past five years, the program has helped to place highly successful students and graduates at several state newspapers, including the *Fairmont Times-West Virginian*, *Clarksburg Exponent*, *Beckley Register-Herald*, *The Dominion Post*, *Herald Star* (Weirton-Steubenville), *The Martinsburg Journal*, *The Huntington Herald Dispatch*, *The Wheeling Intelligencer*, *the Williamson Daily News*, *The Charleston Gazette* and *The Charleston Daily Mail*.

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- **SPECIAL PROJECT AS WRITING SUPPORT FOR THE CLARKSBURG EXPONENT AND TELEGRAM**

**Description:** Beginning in May 1997, the WVU Office of Extended Learning commissioned the project director to work as a writing coach/news consultant for the newly reorganized *Clarksburg Exponent and Telegram*. The paper's owner, Cecil Highland, decided to reorganize and redesign these small, long-standing West Virginia newspapers into a major state news organization. As WVU's representative in the project, the director visits the paper once a month to present day-long coaching/consulting seminars. Working with the Telegram's city editor/training consultant, the project director designed and conducted three seminars last fall and will conduct five more during the spring 1998 semester.

**Impact:** The relationship established between the School of Journalism and the newspaper helps hone the faculty member's skills as a journalism teacher and offers SOJ students important internship and job placement opportunities.

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- **ACADEMIC-PROFESSIONAL NEWS RESOURCES EXCHANGE PROGRAM — "BRIDGING THE GAP: A RESOURCE AND PERSONNEL EXCHANGE BETWEEN WEST VIRGINIA UNIVERSITY AND CHARLESTON NEWSPAPERS, INC.**

**Description:** The academic/professional exchange program was developed by the project director, as part of her responsibility as Director of the School of Journalism's Writing Program, to link the Journalism School to West Virginia's larger news organizations through an ongoing exchange of human and technological resources.

The first phase of the project began in 1995 when the publisher of *The Charleston Gazette* agreed to help fund and support a series of exchanges between the newspaper and the School. The Gazette agreed to send editors, beat specialists, computer experts, and its writing coach to WVU to present training and teaching seminars for faculty and students. In exchange, the School of Journalism agreed to send faculty to the paper's newsroom to offer writing critiques and academic seminars. In addition, the Gazette agreed to fund two- and three-day newsroom observation/participation visits for faculty who want to experience first-hand the challenges and demands of contemporary West Virginia

newsrooms. In the spring and fall of 1997, the director continued to develop and implement the program.

Presentations included a professor emeritus presenting a "Sports Writing Seminar," a news-editorial professor presenting "Reporting on Disasters," and the project director presenting "Discovering Your Voice (Voices) as a Writer." The Gazette, in turn, offered "Modern Muckraking" by award-winning investigative reporter Ken Ward, "Women's Roles in Newspaper Management" by city editor Patty Vandergrift, and "Meetings Coverage" by Gazette writing coach Kate Long. Each session has been taped and added to the SOJ Materials library.

**Impact:** In addition to the SOJ tenure-track faculty, adjuncts (on whom the School is increasingly dependent because of tight budgets and funding cutbacks) especially benefit. This exchange offers part-time professors ongoing professional/academic mentoring opportunities and continuing education. The exchange allows news staff to keep abreast of academic journalism issues. Relationship-building between the School and the paper offers many benefits to students in terms of internship and job placement opportunities.

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## **Workforce Development and West Virginia University The Law Approach**

College of Law  
West Virginia University  
P.O. Box 6130  
Morgantown, WV (304) 293-3199

### **A PERSPECTIVE ON WORKFORCE DEVELOPMENT:**

The College of Law prepares graduates to use their skills in the legal profession. A substantial portion of graduates go directly into the practice of law. In this sense, the College of Law's mission is to prepare students to meet the legal needs of society, particularly in West Virginia. Approximately 75-80 percent of WVU graduates remain in West Virginia following graduation.

While all law schools prepare students to practice law, the WVU College of Law is somewhat unique in the amount of skills training provided to students. The curriculum blends a sound foundation and education in the substantive areas of law with the skills necessary to practice law and to provide a perspective of law as a segment of our society. Since approximately 35 percent of our graduates typically go into law firms of between 2-10 individuals and another 3 percent open as solo practitioners, we believe that the training in the skills area is particularly important to our students and the mission they will fulfill.

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Randy Minor  
Director  
WVU Appalachian Center for Law and Public Service.  
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### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

*The College of Law, in partnership with the West Virginia State Bar, provides West Virginia Continuing Legal Education programs. These programs provide high quality continuing legal education at a reasonable cost throughout the state of West Virginia.*

## **Workforce Development and West Virginia University The PE Approach**

School of Physical Education  
West Virginia University  
P.O.Box 6116  
Morgantown, WV 26506-6116; (304) 293-3295

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **MOTOR DEVELOPMENT CENTER**

The West Virginia Motor Development Center at West Virginia University serves as a state resource center that promotes appropriate movement experiences for skill acquisition and physical performance for individuals of all ages and abilities including people with developmental abilities.

The Center creates and expands quality "activity" programs and services that can be replicated in communities throughout West Virginia and elsewhere. The mission of the center is to enhance workforce diversity.

Impact: Improves the quality of life of West Virginians by promoting movement skills and physical activity for individuals of all ages and abilities.

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- **LIFETIME ACTIVITIES PROGRAM**

The Lifetime Activities Program is a community-based service-oriented program operated by the School of Physical Education. A variety of children's classes include: gymnastics (beginning-advanced), learn to swim, martial arts, tennis, KinderSkills, and Future Fit. Adult programs include: aerobics, adult swim lessons, swim trim, hydro-aerobics, deep water workout, basketball officiating, lifeguard training, Polynesian dance, scuba, snorkeling, and martial arts. Programs focus on total fitness/wellness.

Impact: Enhances the fitness and wellness of the University's faculty, staff, students, and community members.



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## **Workforce Development and West Virginia University The WVU-Parkersburg Approach**

West Virginia University at Parkersburg  
300 Campus Drive  
Parkersburg, WV 26101 (304) 424-8000

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

- **CAPERTON CENTER FOR APPLIED TECHNOLOGY**

*The most unique workforce development facility in the state is under construction at WVU-Parkersburg and scheduled to begin offering programs in Environmental Technology and Manufacturing Processes in the fall of 1999.*

The Caperton Center involves a partnership of public and higher education with business/industry/labor to provide a model of workforce development featuring a seamless, adaptable delivery system of job market responsive programs. The \$6.5 million shared facility is the centerpiece for a collaborative design which focuses on an educational environment where students can grow to become highly valued employees with toolboxes of skills and knowledge upon which to build advanced capabilities.

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- **WVU-P BUSINESS, INDUSTRY AND DEVELOPMENT SERVICES**

WVU at Parkersburg's Business, Industry and Development Services (BIDS) Division responds to workforce development needs of the Mid-Ohio Valley and surrounding region. In 1997-98, BIDS delivered:

- 37,444 hours of training to 3,355 area residents in 222 sessions of offerings, representing a 60% increase in total hours delivered and a 37% increase in number of sessions from 1996-97. Highlights include:

### **WORKFORCE DEVELOPMENT:**

**BIDS assisted in helping area workers refresh their skills in anticipation of the startup of Coldwater Creek, a national mail-order company currently constructing an Eastern Distribution Center and Call Center in the Parkersburg area.**

BIDS collaborated with the West Virginia Development Office to provide support to the "links" program. The Coldwater centers ultimately will employ more than 1,000.

## **TRAINING ALLIANCES**

**BIDS provides direct instruction at E.I. DuPont's Washington Works site in laboratory skills as part of the DuPont Education Alliance. The plant is the largest DuPont chemical facility in the world.**

The college provides several programs on an ongoing basis for DuPont. The mechanic in training (MIT) program involves on-site training by WVU-P faculty. Plans are being developed to implement electrical and instrumentation mechanic training for the site by WVU-P. BIDS staff have developed a time management seminar for DuPont's first-line supervisors and sessions are scheduled for this fall.

## **WORKFORCE PROGRAM DELIVERY ON SITE**

**WVU-P is offering a Certificate program on-site this fall at Century Aluminum's new training facility in Ravenswood for employees at Century Aluminum, SDR Plastics and Ravenswood Polymers.**

BIDS assisted in development of a statewide program to deliver courses to the worksite leading to a Certificate in Manufacturing Supervision. A course in Principles of Supervision is the first offering this fall to any organization under this program and is being delivered by WVU-P at Century Aluminum.

## **POLYMER ALLIANCE ZONE**

**BIDS is an active partner in the Polymer Alliance Zone (PAZ) to develop educational and outreach activities in support of business/industry clients in the Jackson County region.**

WVU-P is part of PAZ, a cooperative endeavor among education, industry and the WV Development Office, to support and encourage the polymer industry in the counties of Wood, Jackson, and Mason counties. Also, BIDS is coordinating the development of an Introduction to Polymer course to be offered online, and projected to be available in 1999. BIDS is preparing to deliver industry-specific seminars and conferences to support the polymer industry.

## **REALTOR TRAINING**

**A total of 6,384 total hours of realtor training was provided by BIDS throughout the state in 1997-98.**

**A total of 6,720 hours of training was delivered in pre-licensing realtor offerings in 1997-98.**

WVU-P serves as the state provider of The REALTOR Institute training program for real estate professionals under joint sponsorship with the West Virginia Association of REALTORS (WVAR). Classes are taught in Parkersburg and at different locations in the state. The Institute offers 90 class hours which satisfy the West Virginia Real Estate Licensing law requirements for formal education as a prerequisite for an individual taking the Real Estate Broker's Licensing Examination in West Virginia. BIDS also offers a pre-licensing training course for prospective real estate sales people in Ohio and West Virginia. The pre-licensure is a 120-hour course providing the prerequisite formal education for the individual desiring to sit for the Real Estate Sales Agent's licensing examination in West Virginia and Ohio.

## **INDUSTRIAL EXTENSION**

**A WVU Industrial Extension Office is a service of BIDS and includes an on-campus Industrial Extension Service engineer who provides a variety of courses that can be delivered at low cost or no charge to small- and medium-sized manufacturers.**

The engineer also works with local economic development organizations, professional/technical societies, and educational institutions to develop methods of evaluation of sustainable program of industrial support. The engineer provided direct training, i.e., Statistical Process Control (SPC) to BIDS clients 1997-98.

## **COMPUTER TRAINING**

**BIDS delivered 94 sessions of computer training totaling 3,529 person hours in 1997-98.**

Non-credit computer training is offered at the college's Dils Center Computer Lab, located in downtown Parkersburg, and on campus. The Dils facility, a 16-station computer lab, is used for a wide range of hands-on computer software training.

## **GLOBAL ASYNCHRONOUS LEARNING COURSES**

**Two on-line global sessions of an Introduction to International Trade and Transportation were provided this year.**

Participants from the WVU-P area, Trident College, SC, and two European colleges discussed issues online involving global business as part of the international course. BIDS is working with the Consortium for Manufacturing Competitiveness (CMC) to provide asynchronous learning courses through the Internet.

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## **Workforce Development and West Virginia University The Potomac State Approach**

Potomac State College of WVU  
Keyser, WV 26726; 1-800-262-7332

### **CURRENT PROJECTS WITH A WORKFORCE DEVELOPMENT COMPONENT:**

Potomac State College of West Virginia University has been involved in Workforce Development efforts since the beginning of this decade. Here is a sampling:

- **SOUTH BRANCH VOCATIONAL TECHNICAL CENTER**

Beginning in 1990, later revised in 1991, articulation agreements were in place with the South Branch Vocational Technical Center. A new articulation agreement in Electrical Technology has been developed and is awaiting signatures.

During 1991 these agreements were effective with the following high schools: Paw Paw, Hampshire, James Rumsey Technical Institute, Jefferson High School, Berkeley Springs High School, and Mineral County Vocational-Technical Center.

Courses in Office System Technology, Business Management Technology, and Computer Information System Technology allow for conversion of high school credit to college credit provided the student enrolls at Potomac State College to pursue the AAS degree in one of the three programs listed.

Cooperative Electronics Technology Program, at the Mineral County Vocational-Technical Center (AAS Degree), provides 60 percent of degree requirements taught by Potomac State College and 40 percent are taught by the Vocational Technical Center.

Horticulture/Agriculture Technology AAS degree program has a statewide articulation agreement developed with West Virginia high schools and vocational centers based on DACUM process and funded by West Virginia Joint Commission for Vocational, Occupation, and Technical Education. Seven horticulture credits are possible through Potomac State College agreements with the Hancock County and Jackson County High School-Vocational Centers, Mason County Schools, and Rockefeller Vocational Center.

- **LABOR/INDUSTRY/BUSINESS AGENCIES**

With Labor/Industry/Business Agencies, an agreement exists between Potomac State College and the North Central West Virginia Building and Construction Trades Council of AFL-CIO. Earning an AAS degree in Potomac State College's Occupational Development program includes 22 credits in general education earned through the college with 30 credits earned through apprenticeship classroom instruction related to building and construction. Another 13 credits are earned through on-the-job training.



- **NAVAL SECURITY GROUP ACTIVITY CENTER**

A Memorandum of Understanding is in place for Voluntary Educational Services between Potomac State College and Naval Security Group Activity Center, Sugar Grove, West Virginia. In the Spring 1998 semester, Potomac State College offered a sociology course on the base.

- **WESTERN MARYLAND AREA HEALTH EDUCATION CENTER**

A Memorandum of Agreement between Potomac State College and Western Maryland Area Health Education Center, Cumberland, Md., allows participation in the Access Computer Technology/Information Outreach Network (ACTION) through a grant of National Library of Medicine to improve accessibility to information resources for unaffiliated and underserved health professions in the rural, tri-state area.

- **SEVEN OF POTOMAC STATE COLLEGE'S 13 DEGREE/CERTIFICATE PROGRAMS ARE AAS PROGRAMS**

Potomac State College offers AAS degrees in Agriculture with majors in Agriculture and Horticulture; in Business Technology with majors in General Business and Accounting; in Computer Information Systems with majors in Microcomputer Applications and Computer Programming; Electronic Technology; Occupational Development; Office Systems Technology

with majors in Administrative Assistant and Medical Office Assistant. Potomac State College also offers a certificate in Desktop Publishing.

Beginning with the Fall 1998 semester, Potomac State College is guaranteeing to people within its service area its AAS degree in Business Technology (General Business Major) and its certificate in Desktop Publishing can be earned through evening division classes.

- **THOMAS EDUCATION CENTER/TUCKER COUNTY SCHOOLS**

Potomac State College, Thomas Education Center, and Tucker County Schools have worked together in offering business and computer courses in Tucker County at both the Thomas Education Center site in Thomas and the Tucker County High School Career Center. Currently, a study is under way to determine whether there is sufficient interest in that region for Potomac State College to commit to an AAS degree in Business Technology program through the Thomas Education Center.

The Mineral Country Schools Workforce Training, conducted from Summer 1997 through Summer 1998, includes several course offerings delivered as a joint venture between PSC and Mineral County Schools. These included: Summer 1997: Education 091 - RESA VIII Academy in which 21 enrolled; Fall 1997: Education 091 - Human Development and Learning - 28 enrolled; Spring 1998 Music 42—Teaching Elementary School Music - 30 enrolled; Art 003-Materials & Procedures-30 enrolled; English 091-Writing Skills in the Elementary Classroom-30 enrolled; Summer 1998: Education 091-Classroom Management-32 enrolled and Education 091-RESA VIII Academy-14 enrolled.

- **WORKFORCE RE-TRAINING EFFORTS**

In workforce re-training efforts, Potomac State College personnel were actively involved in meetings with employees of Anchor Glass, Bausch and Lomb, and Petersburg Garmet when these three businesses were on the verge of closing. The result was the enrollment of approximately 30 of these employees during 1995-1998. Virtually all 30 have earned AA and/or AAS degrees

The re-activation of JTPA program on campus was to provide additional avenue of access to college education for unemployed or underemployed people; Potomac State College personnel actively participated in a Welfare Reform Initiative Committee formed by Terry Cannon, then Director of Mineral County Vocational-Technical Center. Potomac State College was actively involved in School-to-Work projects in its five-county service area.

- **DISTRICT CONSORTIUM**

A District Consortium has been established to address workforce needs. The consortium includes a 5-county needs assessment in 1995 which provides an accurate look at the workforce training needs of the Potomac Highlands Region. There has been a cooperative effort between the District consortium, PSC, and the West Virginia University School of Business and Economics—a \$10,000 project was conducted which provides an accurate set of workforce demographics for the Potomac Highlands Region.

Other areas under development include a one-stop-career-shop which will include 20 computer stations providing aptitude testing, career information, job service facilities with access to on-line job "banks," and academic advising.

- **TRAIN THE TRAINER SESSIONS**

Potomac State College administrators and faculty, along with employees from the Mineral County Vocational-Technical Center and business people from the 5-county region, participated in Train-the-Trainer sessions developed by WVU's Center for Entrepreneurial Studies and Development from 1995-present.

Using instructional materials developed by the Center for Entrepreneurial Studies and Development, Karen L. Campbell, faculty member and Certified Trainer, conducted four training sessions each for Potomac Valley and Hampshire Memorial Hospitals in July and August.

- **REGIONAL TECH PREP**

Cheryl DeBerry was hired in February 1998 to provide full-time coordination to Potomac State College's efforts in regional Tech-Prep initiatives.

A needs assessment of the region has been conducted to determine the need for and interest in the criminal justice program at Potomac State College. Proposals for AA and AAS degrees and Certificates in Criminal Justice, with majors in corrections and law enforcement, have been written and are currently being prepared for faculty assembly review.

## **Workforce Development and West Virginia University The Community and Technical College Approach**

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Montgomery, WV 25136  
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### **WORKFORCE DEVELOPMENT ROLE**

Central to the mission of the Community and Technical College of West Virginia University Institute of Technology (C&T/WVUIT) are activities aimed at workforce development. These activities include:

- Workforce training and retraining of employees of business, industry, labor, and government designed to maintain, enhance, and provide new knowledge and skills relevant to the workplace
- Career-technical certificate and associate degree preparation of individuals for entry-level technical, paraprofessional, or management positions in business, industry, government, and health professions.

### **WORKFORCE TRAINING AND RETRAINING: SERVICES PROVIDED**

#### **● WORKFORCE NEEDS ASSESSMENT**

Two primary categories of assessment services are provided: pre-employment assessment of job applicants and training needs assessment. Pre-employment assessment services such as those provided to the Toyota plant in Eleanor are designed to assist employers in testing and evaluating job applicants in specific areas. In the case of Toyota, the college provided assistance in the testing of electrician applicants to identify those candidates who met the required skill level.

Workforce training and retraining assessment consists of a formal process designed to assist business, industry, labor, and government in identifying and prioritizing their training needs. Some form of needs assessment is completed by the college prior to scheduling any workforce training.

#### **● TRAINING AND RETRAINING**

C&T/WVUIT specializes in delivering a wide array of workforce training ranging from computer software applications and managerial "soft skills" such as teaming, time management, and change strategies to such technical training as instrumentation and controls, programmable logic controllers (PLCs), and web press operations. In the past year, paramedic and surgical technology education and training designed to meet the needs of area health care

providers has also been delivered as safety training. Following is a partial list of training provided and the organizations served. Note that the length of the training ranged from a one-hour change management course to a 264 hour instrumentation and controls course delivered to the American Electric Power John Amos Plant.

| <i>Title</i>                    | <i>Organization Served</i>     |
|---------------------------------|--------------------------------|
| I & C Technician Training       | AEP, Pt. Pleasant              |
| I & C Technician Training       | AEP, John Amos Plant           |
| Hydraulics Training             | Russell-Stanley Corp.          |
| Lotus 1-2-3 and WordPerfect     | Foodland                       |
| Change Management               | WVCCA                          |
| Managerial Skills               | WV Housing Development Fund    |
| Electricity I                   | INCO                           |
| Mechanics I                     | INCO                           |
| Over 55 Pre-employment Training | Multi-Cap                      |
| PLC Training                    | IBEW                           |
| NEC Training                    | CDI                            |
| Introduction to PLCs            | Weyerhaeuser                   |
| Visual Basic Training           | The Rivermen                   |
| Microsoft Office Training       | WVU Clinical Pharmacy          |
| Surgical Technology             | Charleston Area Medical Center |
| Paramedic                       | Area Ambulance Authorities     |
| Safety/OSHA                     | Area Businesses                |

#### **ENTRY-LEVEL CAREER-TECHNICAL CERTIFICATE AND ASSOCIATE DEGREE EDUCATION AND TRAINING**

This institution has a long history of preparing graduates at the certificate and associate degree level to assume entry positions in a number of technical, paraprofessional, and management positions in business and industry. This has become increasingly important as the technology found in much of today's workplaces requires employees with ever-increasing levels of technical skills.

Over the period of 1993-1998, the Community and Technical College prepared over 650 associate degree graduates for entry-level positions. The college currently offers certificate and associate degree programs in the following areas:

##### **Engineering Technologies**

- Electrical
- Civil
- Mechanical
- Drafting and Design

##### **Business and Office Technology**

- Accounting
- Banking
- Computer Information Systems
- Legal Office Administration
- Executive Office Administration

### **General Technologies**

- Printing
- Automotive

### **Health Care**

- Dental Hygiene
- Medical Office Administration
- Paramedic
- Respiratory Care

## **LESSONS LEARNED**

In regard to issues of workforce education and training, a number of lessons have been learned.

- The need and demand for both training and retraining of the current workforce and preparation of entry-level workers at the certificate and associate degree levels is increasing dramatically. This need and demand is expected to continue to increase at a steady rate due to significant numbers of expected retirements, changing technology, global economic forces, and an improving economy. All of these factors in combination are bringing focus to the issues of meeting the needs of the workplace.
- Partnering of educational institutions with business, industry, labor, government, and with each other to meet these increasing needs for worker training is essential. Employers and employees require education's assistance in identifying their training needs, and education requires assistance to identify and understand the trends in industry needed to maintain quality programs.

Secondly, no educational institution can meet all of the training needs that it may identify. Institutional partnering is essential to ensure delivery of the highest quality workforce training available.

- Needs assessment services are an essential service component that colleges can offer business, industry, labor, and government. Whether it be assistance in testing and evaluating new hires or assessing the needs for training and retraining, colleges can provide a more complete service by including these components in the workforce training package.
- One mechanism to achieve the WVU family's goal of informing potential customers of the services available is the West Virginia Clearinghouse for Workforce Education. This new statewide centralized database and resource center of workforce education providers will provide a critical link to business, industry, labor, and government agencies in need of such services.
- Currently, most aspects of the workforce training services provided by the Community and Technical College are self-supporting. It is projected that significant increases in need and demand will outstrip current resources resulting in slower response time to requests. Funding tied to program development and delivery is important if services are to be provided in a timely manner.



## Workforce Development and West Virginia University The WV Clearinghouse Approach

The WV Clearinghouse for Workforce Education  
P.O. Box 1000, Campus Box 112  
Institute, WV 25112-1000; (304) 766-4246 or 766-4245  
1-877-WVCLHOU (982-5468)  
e-mail: clearwv@mail.wvsc.edu

### DESCRIPTION:

The WV Clearinghouse for Workforce Education will provide a *statewide* centralized database and resource center for workforce education providers and those in need of training or retraining. The WVCWE will be accessible via phone, e-mail, and the world wide web.

### LOCATION:

The Clearinghouse is based at West Virginia State College in Institute, WV. The offices are located on the third floor of Sullivan Hall, Rooms 321 and 323. Hours of operation: 8 a.m. - 4:30 p.m. weekdays, except Thursdays when hours are extended until 7 p.m.

### NEED:

There are many capable providers of workforce education and training available across the state; however, there is no centralized information resource center to assist in identifying the range of potential providers that could meet the customers' education and training needs. Nor at this time does there exist a reliable mechanism to identify for the customer a published listing of potential providers.

The WV Clearinghouse for Workforce Education will provide a comprehensive, objective, customer focused, *user friendly*, full service clearinghouse for dispensing relevant education and training information for employers and individual employees.

### FOCUS:

The WV Clearinghouse for Workforce Education will be *statewide* in scope and will utilize the resources of every public and private two- and four-year college and university in the State of West Virginia, as well as private providers. The WVCWE will be provider neutral and not offer any training programs, but will serve strictly as a clearinghouse for the various providers.

Another focus of the clearinghouse will be to discern trends and emerging needs in workforce education (from the employee and employer points of view) and to disseminate that information to providers.

### BENEFITS:

- \* A provider neutral information service
- \* Improve the coordination of education and training
- \* Prepare workers with needed skills
- \* Strengthen the state's economy through stronger workforce preparation
- \* Retain businesses with changing needs for workforce education and skills

- \* Identify education and training providers for new and expanding businesses
- \* Increased employment opportunities
- \* Have a better trained workforce
- \* Attract new businesses & industries to West Virginia.

#### COMPATIBILITY WITH OTHER WV WORKFORCE DEVELOPMENT EFFORTS:

WVCWE is a provider of *information* about educational and training opportunities, not a provider of such educational and training *offerings*. It serves to compliment the efforts of other workforce development activities under way in the state including, but not limited to: BIDCO; the WV Training Network; S.B. 547/591 Community and Technical College District consortia; the WV School-to-Work system; the WVU Extension Center for Community, Economic, and Workforce Development; public schools; private providers; and others.

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